Self Diagnosis Supported model

HISTORY INFORMATION FOR THE FOLLOWING MANUAL:

SERVICE MANUAL

ORIGINAL MANUAL ISSUE DATE: 2/2011

AZ2W *CHASSIS*

Segment: P-1

Version	Date	Subject
1.0	2/2011	Original manual issue.
2.0	3/2011	Addition of missing part numbers.
3.0	3/2011	Addition of missing 32 Inch part numbers.
4.0	4/2011	Addition of KDL-37EX521/524/525. Replace pages with the latest information. (P.10, P.11, P.46, P.85) Addition of Appendix-1.
5.0	06/2011	Correction of main board KDL-32EX524 (P24)

LCD Digital Color TV

SONY®

9-883-492-05

KDL-22/24/26/32/40/46/55EX320,321,325,421,425,520,521,523,524,525 (AEP/UK/RUSSIA)

S/N range 6,000,001-6,999,999 (WS)

Self Diagnosis
Supported model

SERVICE MANUAL

AZ2W *CHASSIS*

Segment: P-1

LCD Digital Color TV

SONY

9-883-492-05

MODEL LIST

MODEL	COLOR	COMMANDER	DEST.
KDL-22EX320	Black	RM-ED045	AEP
			UK
			RUSSIA
KDL-22EX325	Black	RM-ED045	AEP
KDL-24EX320	Black/White	RM-ED045	AEP
			UK
			RUSSIA
KDL-24EX325	Black/White	RM-ED045	AEP
KDL-26EX320	Black	RM-ED045	AEP
			UK
			RUSSIA
KDL-26EX321	Black	RM-ED045	AEP
KDL-26EX325	Black	RM-ED045	AEP
KDL-32EX421	Black	RM-ED045	AEP
KDL-32EX425	Black	RM-ED045	AEP
KDL-32EX523	Black	RM-ED045	UK
KDL-32EX524	Black	RM-ED045	AEP
			UK
KDL-32EX525	Black	RM-ED045	AEP
KDL-37EX521	Black	RM-ED045	AEP
KDL-37EX524	Black	RM-ED045	AEP
			UK
KDL-37EX525	Black	RM-ED045	AEP

MODEL	COLOR	COMMANDER	DEST.
KDL-40EX520	Black	RM-ED045	AEP
KDL-40EX521	Black	RM-ED045	AEP
KDL-40EX523	Black	RM-ED045	UK
KDL-40EX524	Black	RM-ED045	AEP
			UK
KDL-40EX525	Black	RM-ED045	AEP
KDL-46EX520	Black	RM-ED045	AEP
KDL-46EX521	Black	RM-ED045	AEP
KDL-46EX524	Black	RM-ED045	AEP
			UK
KDL-46EX525	Black	RM-ED045	AEP

WARNINGS AND CAUTIONS - ENGLISH

CAUTION

These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

WARNING!!

An isolation transformer should be used during any service to avoid possible shock hazard, because of live chassis.

The chassis of this receiver is directly connected to the ac power line.

CARRYING THE TV

Be sure to follow these guidelines to protect your property and avoid causing serious injury.

• Carry the TV with an adequate number of people; larger size TVs require two or more people.

• Correct hand placement while carrying the TV is very important for safety and to avoid damages.

SAFETY-RELATED COMPONENT WARNING!!

Components identified by shading and ! mark on the schematic diagrams, exploded views, and in the parts list are critical for safe operation. Replace these components with Sony parts whose part numbers appear as shown in this manual or in supplements published by Sony. Circuit adjustments that are critical for safe operation are identified in this manual. Follow these procedures whenever critical components are replaced or improper operation is suspected.

WARNINGS AND CAUTIONS - FRENCH

ATTENTION!!

Ces instructions de service sont à l'usage du personnel de service qualifi é seulement.

Pour prévenir le risque de choc électrique, ne pas faire l'entretien autre que celui contenu dans le Mode d'emploi à moins que vous soyez qualifi é faire ainsi.

WARNING!!

Afi n d'eviter tout risque d'electrocution provenant d'un châssis sous tension, un transformateur d'isolement doit etre utilisé lors de tout dépannage. Le châssis de ce récepteur est directement raccordé à l'alimentation du secteur.

POUR TRANSPORTER LE TÉLÉVISEUR

Tenez compte de ce qui suit pendant l'installation du téléviseur :

• Débranchez tous les câbles avant de transporter le téléviseur.

• Transportez le téléviseur avec le nombre de personnes approprié ; un téléviseur de grande taille doit être transporté par au moins deux personnes.

• Lors du transport du téléviseur, l'emplacement des mains est très important pour votre sécurité, ainsi que pour éviter de causer des dommages.

ALERTE!!

Afi n d'eviter tout risque d'electrocution provenant d'un chassis sous tension, un transformateur d'isolement doit etre utilise lors de tout depannage. Le chassis de ce recepteur est directement raccorde a l'alimentation du secteur.

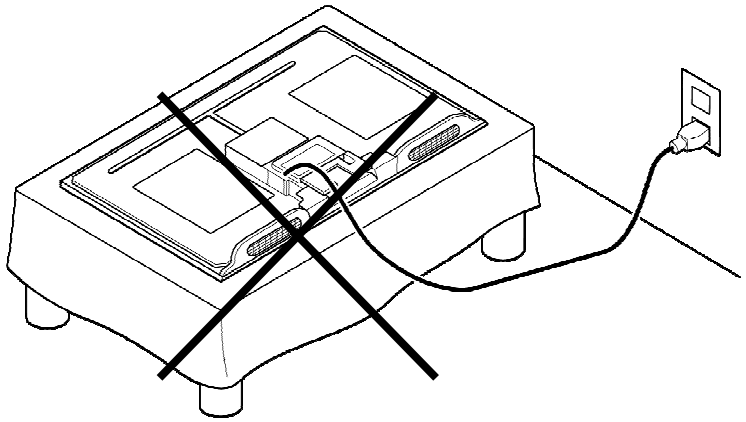
ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

Les composants identifi es par une trame et par une marque ! sur les schemas de principe, les vues explosees et les listes de pieces sont d'une importance critique pour la securite du fonctionnement. Ne les remplacer que par des composants Sony dont le numero de piece est indique dans le present manuel ou dans des supplements publies par Sony. Les reglages de circuit dont l'importance est critique pour la securite du fonctionnement sont identifi es dans le present manuel. Suivre ces procedures lors de chaque remplacement de composants critiques, ou lorsqu'un mauvais fonctionnement suspecte.

USE CAUTION WHEN HANDLING THE LCD PANEL

When repairing the LCD panel, be sure you are grounded by using a wrist band.
When repairing the LCD panel on the wall, the LCD panel must be secured using the 4 mounting holes on the rear cover.

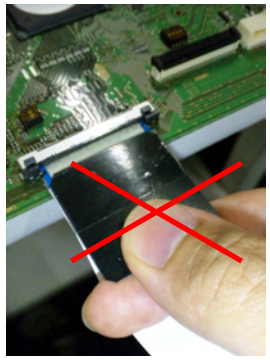
1) Do not press on the panel or frame edge to avoid the risk of electric shock.
2) Do not scratch or press on the panel with any sharp objects.
3) Do not leave the module in high temperatures or in areas of high humidity for an extended period of time.
4) Do not expose the LCD panel to direct sunlight.
5) Avoid contact with water. It may cause a short circuit within the module.
6) Disconnect the AC power when replacing the backlight (CCFL) or inverter circuit. (High voltage occurs at the inverter circuit at 650Vrms.)
7) Always clean the LCD panel with a soft cloth material.
8) Use care when handling the wires or connectors of the inverter circuit. Damaging the wires may cause a short.
9) Protect the panel from ESD to avoid damaging the electronic circuit (C-MOS).
10) It is recommended not to exceed 1 hour of Power-On nor Burn-in period with LCD panel face down condition, in repair activity.



HANDLING THE FFC

When you insert / pull out FFC, please grasp a reinforcement board and main body of FFC.

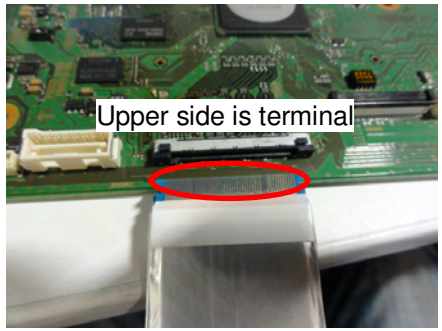
<GOOD>



<NG>

FFC can reverse insertion to connector of B board.
If reverse insertion FFC, all pins short-circuit, and board is broken.

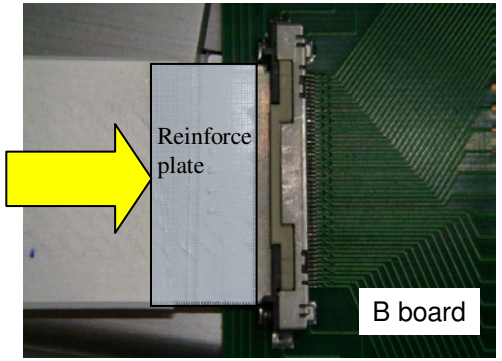
<GOOD>



<NG>

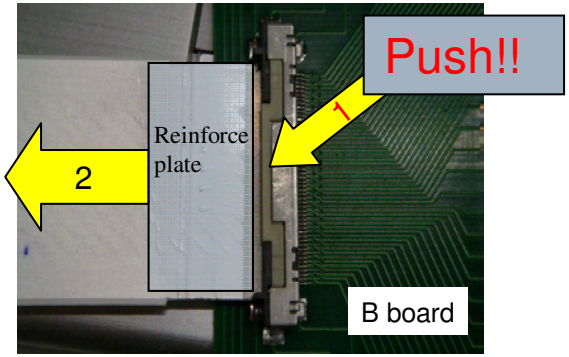
< Insertion >

Please hold reinforcement board and plunge it to the depths.



<Pull out>

Please pull out FFC **while** pushing the upper button at the same time.



SAFETY CHECK-OUT

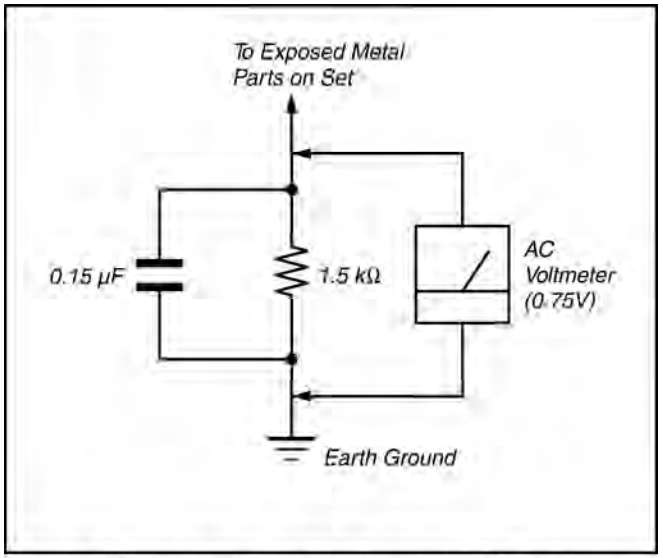
After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or touching high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.
8. For safety reasons, repairing the Power board and/or Inverter board is prohibited.

Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes).
Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliampmeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale.
   The Simpson's 250 and Sanwa SH-63TRD are examples of passive VOMs that are suitable. Nearly all battery-operated digital multimeters that have a 2 VAC range are suitable (see Figure A).



FigureA. Using an AC voltmeter to check AC leakage.

How to Find a Good Earth Ground

A cold-water pipe is a guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground.
If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms.
If a cold-water pipe is not accessible, connect a 60- to 100-watt trouble- light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side on the line; the lamp should light at normal brilliance if the screw is at ground potential (see Figure B).

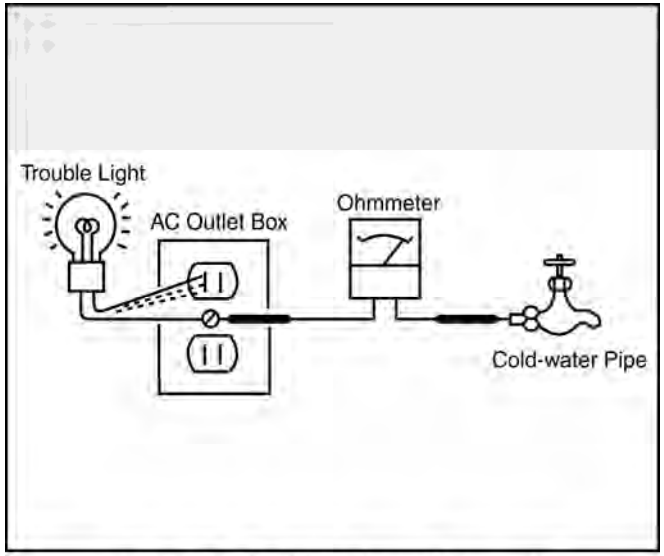


Figure B. Checking for earth ground.

SELF DIAGNOSIS FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY LED will automatically begin to flash.
The number of times the LED flashes translates to a probable source of the problem.
A definition of the STANDBY LED flash indicators is listed in the instruction manual for the user's knowledge and reference.
If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

DIAGNOSTIC TEST INDICATORS

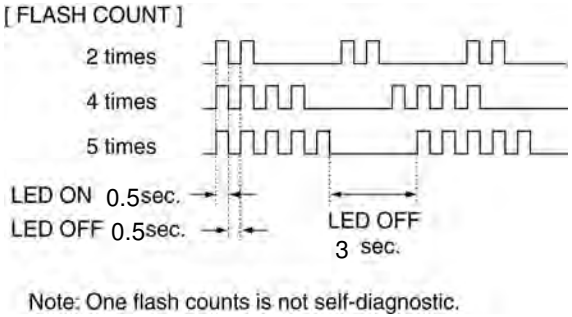
When an error occurs, the STANDBY LED will flash a set number of times to indicate the possible cause of the problem.

If there is more than one error, the LED will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen.

If the screen displays a "0", no error has occurred .

DISPLAY OF STANDBY LED FLASH COUNT



Note: One flash counts is not self-diagnostic.

STBY LED Flash time	Service menu Item name (Screen Display)	Diagnostic Item Description
2	MAIN_POWE	Main Power Over Voltage Protection
3	DC_ALERT	DC_ALERT
	AUD_PROT	Audio Abnormal Detection
4	BALANCER	Not used
5	TCON_ERR	Not used
	HFR_ERR	Not used
	P_ID_ERR	Panel ID NVM Error
6	BACKLITE	Back Light Error (Panel Inverter) or Power Board Error
7	TEMP_ERR	Thermal Error
	FAN_ERR	Fan Error
8	-	Software Error
9	-	Not used
10	EMITTER	Not used
11	-	Not used
12	-	Not used

SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurrences of failure for confirmation on the screen:

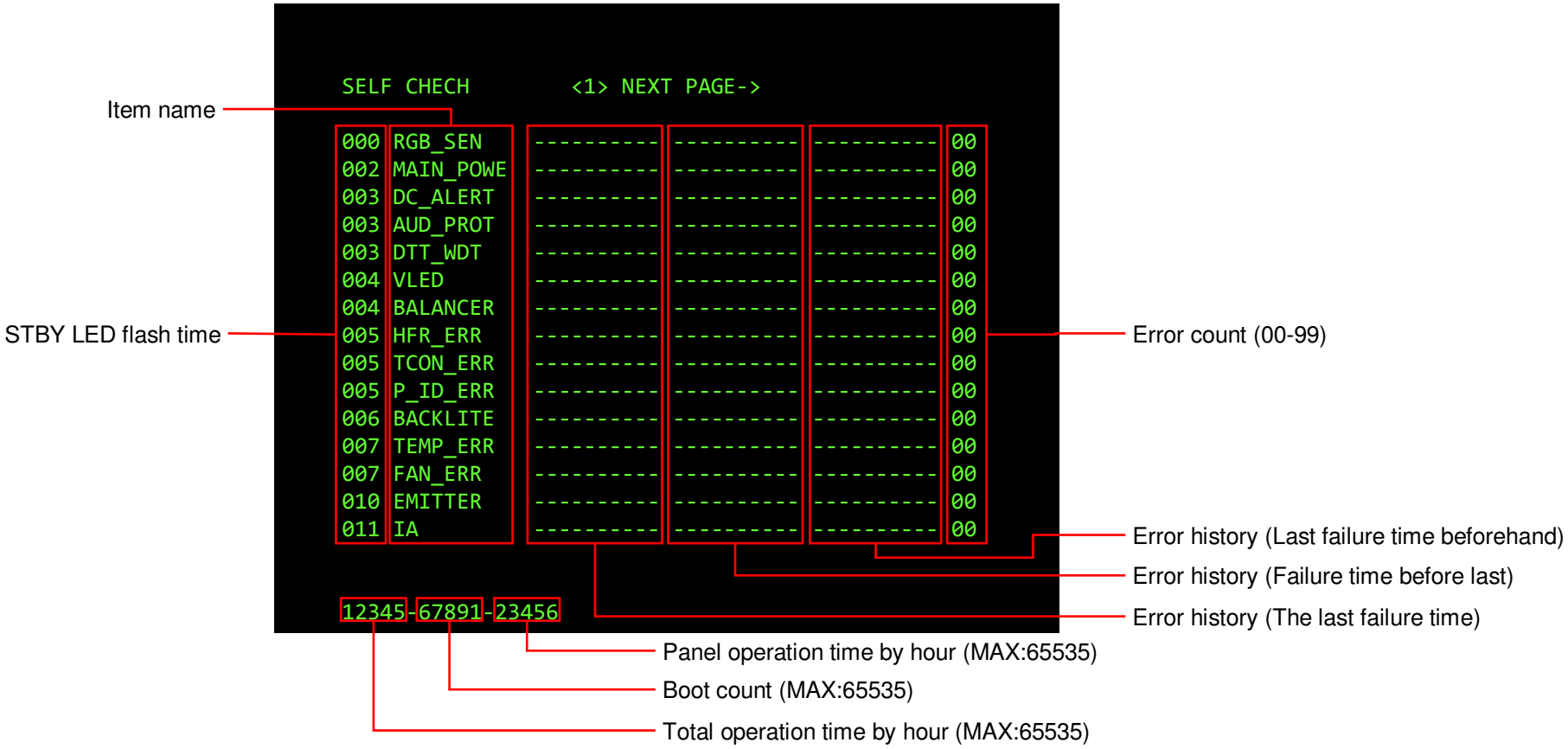
[To Bring Up Screen Test]

In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

DISPLAY ➡ Channel 5 ➡ Volume *– ➡ TV POWER

* : Note that this differs from entering the service mode (volume +)

[SELF DIAGNOSTIC SAMPLE SCREEN DISPLAY]


SELF CHECH
<1> NEXT PAGE->
000 RGB_SEN ---------- ---------- ---------- 00
002 MAIN_POWE ---------- ---------- ---------- 00
003 DC_ALERT ---------- ---------- ---------- 00
003 AUD_PROT ---------- ---------- ---------- 00
003 DTT_WDT ---------- ---------- ---------- 00
004 VLED ---------- ---------- ---------- 00
004 BALANCER ---------- ---------- ---------- 00
005 HFR_ERR ---------- ---------- ---------- 00
005 TCON_ERR ---------- ---------- ---------- 00
005 P_ID_ERR ---------- ---------- ---------- 00
006 BACKLITE ---------- ---------- ---------- 00
007 TEMP_ERR ---------- ---------- ---------- 00
007 FAN_ERR ---------- ---------- ---------- 00
010 EMITTER ---------- ---------- ---------- 00
011 IA ---------- ---------- ---------- 00
12345-67891-23456
Item name
STBY LED flash time
Error count (00-99)
Error history (Last failure time beforehand)
Error history (Failure time before last)
Error history (The last failure time)
Panel operation time by hour (MAX:65535)
Boot count (MAX:65535)
Total operation time by hour (MAX:65535)

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen.
After you have completed the repairs, clear the result display to “0”.

Clearing the Self Check Diagnostic List

1. Error history and Error count : Press the Channel 8 => Channel 0 .
2. Panel operation time : Press the Channel 7 => Channel 0 .

Exiting the Self-diagnostic screen

To exit the Self Diagnostic screen, turn off the power to the TV by pressing the POWER button on the remote or the POWER button on the TV.

SEC 1. DISASSEMBLY AND PARTS LIST

- Items with no part number and no description are not stocked because they are seldom required for roution service.
- The construction parts of an assembled part are indicated with a collation number in the remark colum.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- There are clutch in the yellow frame[ ]. Therefore please be careful in the case of the disassembly or assembly of parts.

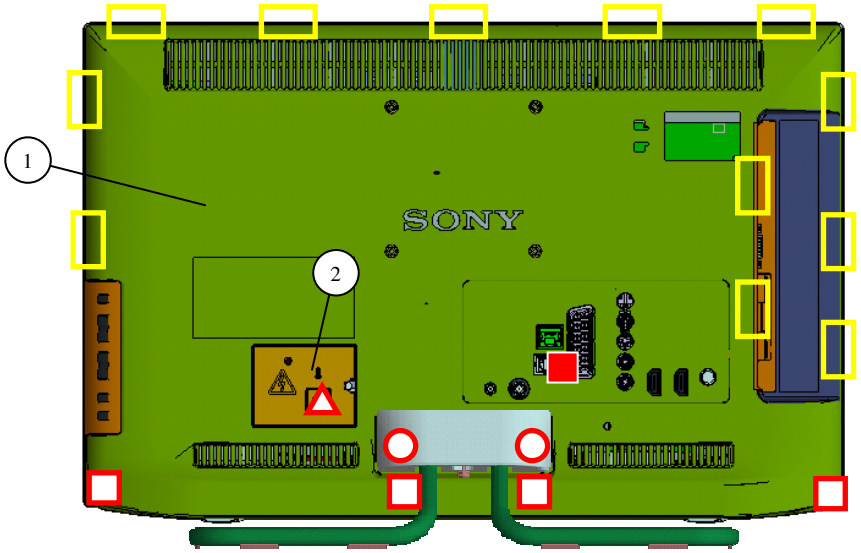
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

The components identified by mark 🔒 contain confidential information. Strictly follow the instructions whenever the components are repaired and/or replaced.

IMPORTANT: When replacing LCD Panel or Circuit Boards ensure that all Radiation Sheets and Insulation Sheets are in their correct positions in the TV set.

1-1. KDL-22EX320/325

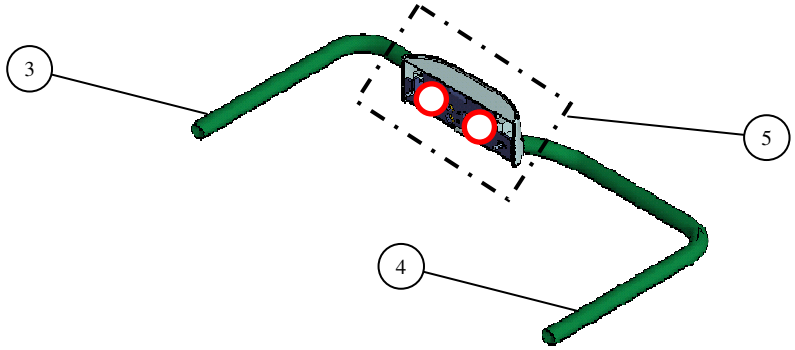
1-1-1. STAND BLOCK, REAR COVER, AC COVER



REF. No.		PART No.	DESCRIPTION	REMARK
1		WS0010301	REAR COVER (22 SYR)	
		WS0010401	REAR COVER (22 SYR)	EX325
2	⚠	WS0010501	COVER, AC(S)	
3		WS0004901	STAND, PIPE L(SS)	
4		WS0005001	STAND, PIPE R(SS)	
5		WS0011101	STAND, HEAD P (SS)	

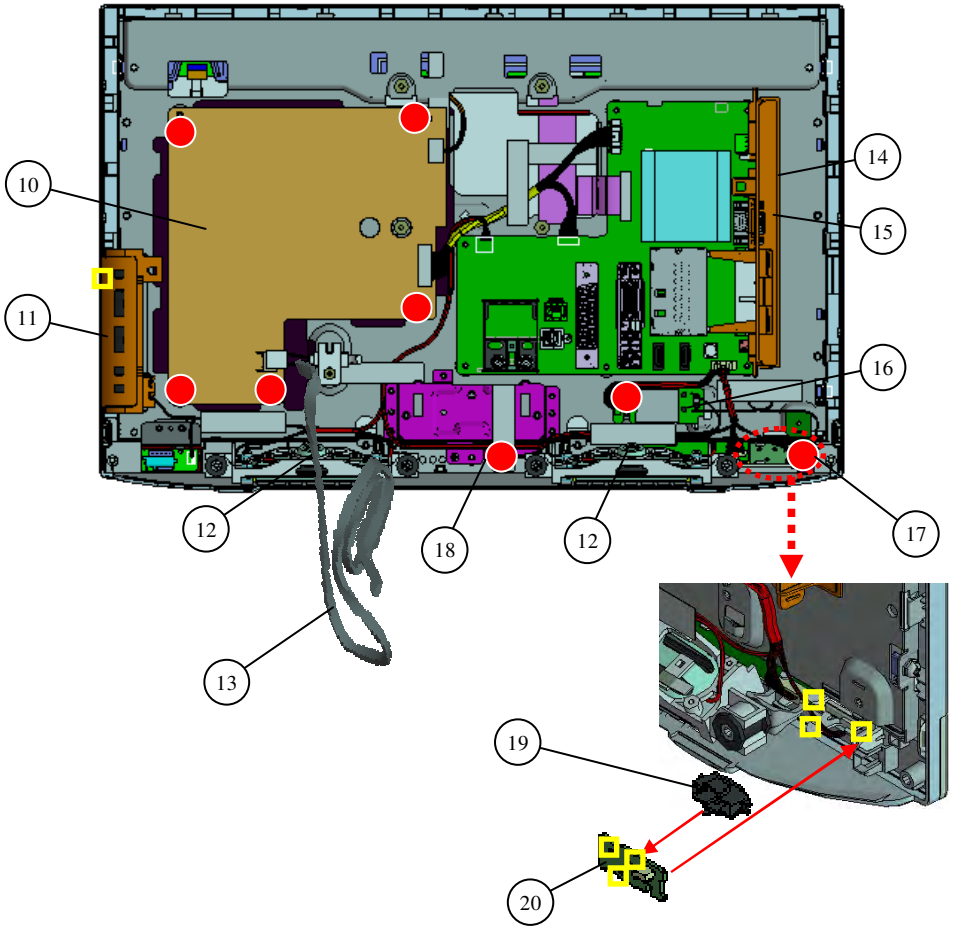
○	WS0002801	SCREW, +PSW M4X12
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3
□	WS0005801	SCREW +BVTP 4X12 TYPE2 IT-3
△	WS0003201	SCREW, +PSW M3X6 W12

1-1-2. HEAD STAND, PIPE STAND



1-1. KDL-22EX320/325

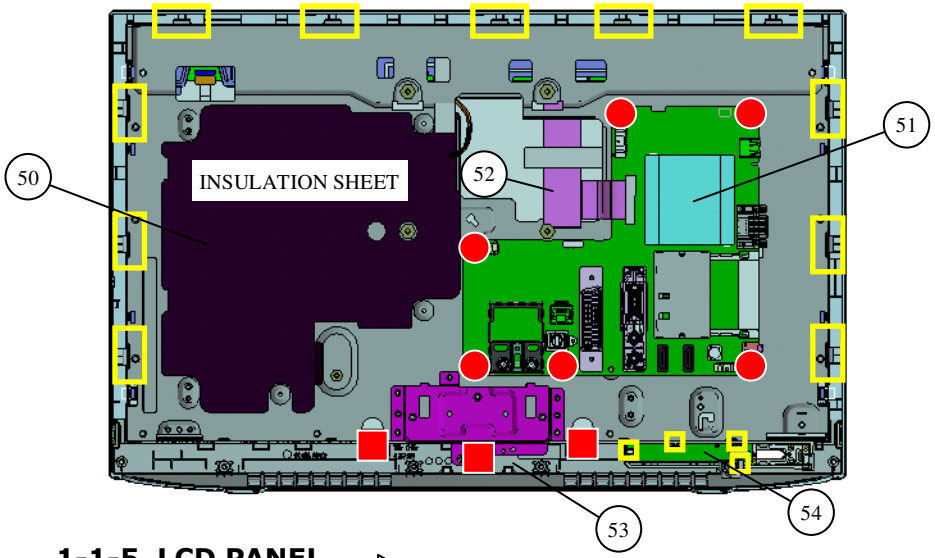
1-1-3. G1A BOARD, SPEAKER, SWITCH UNIT, HMS3 BOARD, WIFI MODULE AND SIDE BRACKET



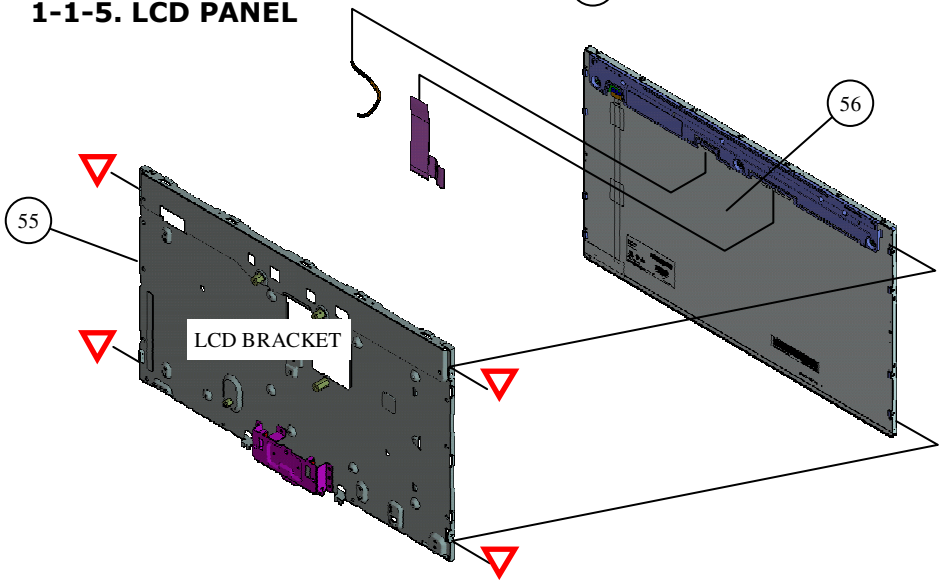
REF. No.		PART No.	DESCRIPTION	REMARK
10	⚠	WS0000401	STATIC CONVERTER (TV)-G1A	
11		WS0000701	SWITCH UNIT	
12		WS0002501	LOUDSPEAKER 30X100MM	
13	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY
14		WS0010601	BRACKET SIDE (22/24/26)	
15		WS0006201	LABEL (BAT-S MOLD SIDE)	
16		WS0000101	WIRELESS LAN CARD	
		WS0000201	WIRELESS LAN CARD	RUSSIA ONLY
17		WS0001001	ANTENNA	
18		WS0001101	ANTENNA	
19		WS0002301	FRENEL LENS	
20		WS0013701	HMS3 COMPLETE	
●		WS0006001	SCREW (+PSW) (M3X6)	

1-1. KDL-22EX320/325

1-1-4. BATS BOARD, BEZEL, HLR2 BOARD



1-1-5. LCD PANEL



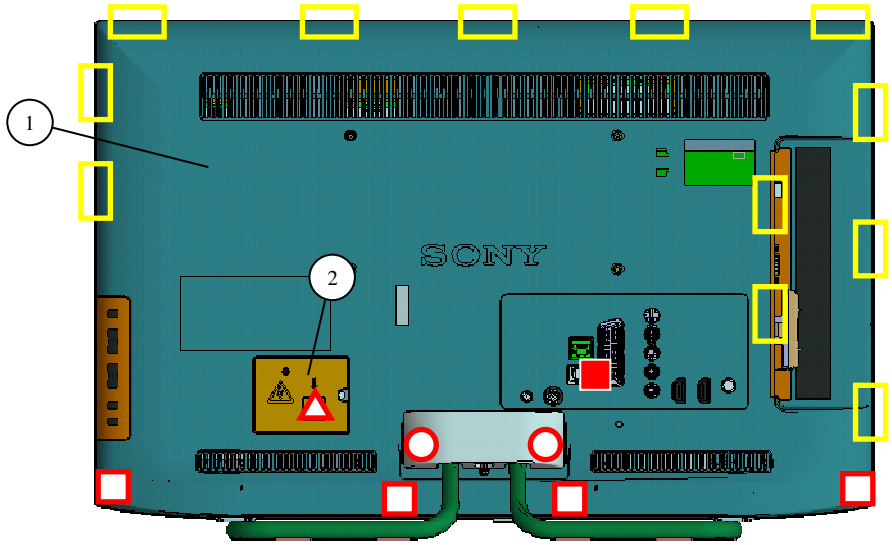
REF. No.		PART No.	DESCRIPTION	REMARK
50		WS0021601	SHEET, INSULATION (G1)	
51	🔓	WS0012901	BATS COMPL (SERVICE)	EX320 AEP, RU
	🔓	WS0013101	BATS COMPL (SERVICE)	EX325 AEP
	🔓	WS0013001	BATS COMPL (SERVICE)	EX320 IT
52		WS0001901	FLEXIBLE FLAT CABLE I1 22WS	
53		WS0010701	BEZEL(22 SYR)	
54		WS0013601	HLR2 MOUNT(B-O-AEP)	
55		WS0006801	BRACKET, LCD (22)	
56		1-811-320-11	LCD PANEL (L216SDA2)	

▽	WS0020701	SCREW, +PSW M3X8
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3
●	WS0006001	SCREW (+PSW) (M3X6)

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

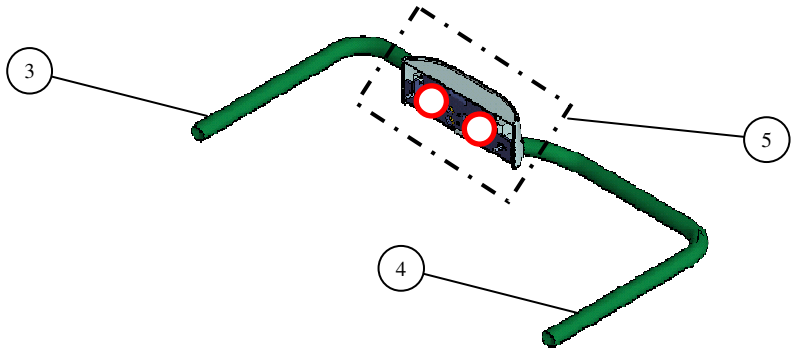
1-2. KDL-24EX320/325

1-2-1. STAND BLOCK. REAR COVER, AC COVER



REF. No.		PART No.	DESCRIPTION	REMARK
1		WS0012101	REAR COVER (24 SYR)	BLACK
		WS0012201	REAR COVER (24 SYR)	LIGHT GREY
		WS0012301	REAR COVER (24 SYR)	EX325
2	⚠	WS0010501	COVER, AC(S)	BLACK
	⚠	WS0012001	COVER, AC(S)	LIGHT GREY
3		WS0005101	STAND, PIPE L(S)	BLACK
		WS0005201	STAND, PIPE L(S)	WHITE
4		WS0005301	STAND, PIPE R(S)	BLACK
		WS0005401	STAND, PIPE R(S)	WHITE
5		WS0011101	STAND, HEAD P (SS)	BLACK
		WS0012401	STAND, HEAD P (SS)	WHITE

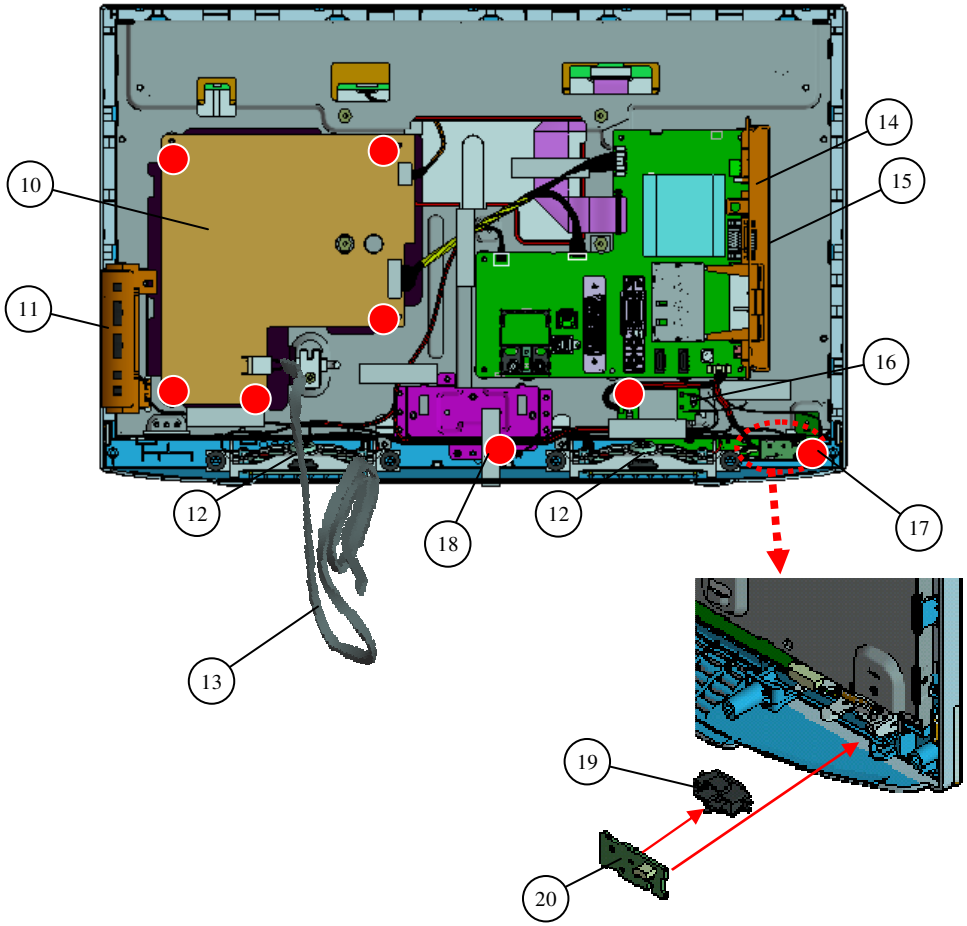
1-2-2. HEAD STAND, PIPE STAND



○	WS0002801	SCREW, +PSW M4X12	BLACK
○	WS0002801	SCREW, +PSW M4X12	LIGHT GREY
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3	
□	WS0005801	SCREW +BVTP 4X12 TYPE2 IT-3	
△	WS0003201	SCREW, +PSW M3X6 W12	BLACK
△	WS0020801	SCREW, +PSW M3X6 W12	LIGHT GREY

1-2. KDL-24EX320/325

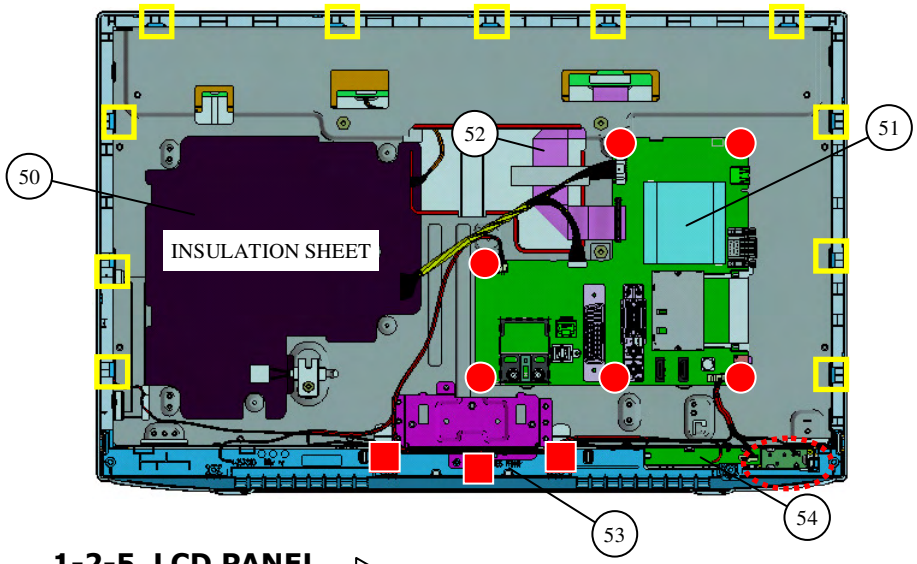
1-2-3. G1B BOARD, SPEAKER, SWITCH UNIT, HMS3 BOARD, WIFI MODULE AND SIDE BRACKET



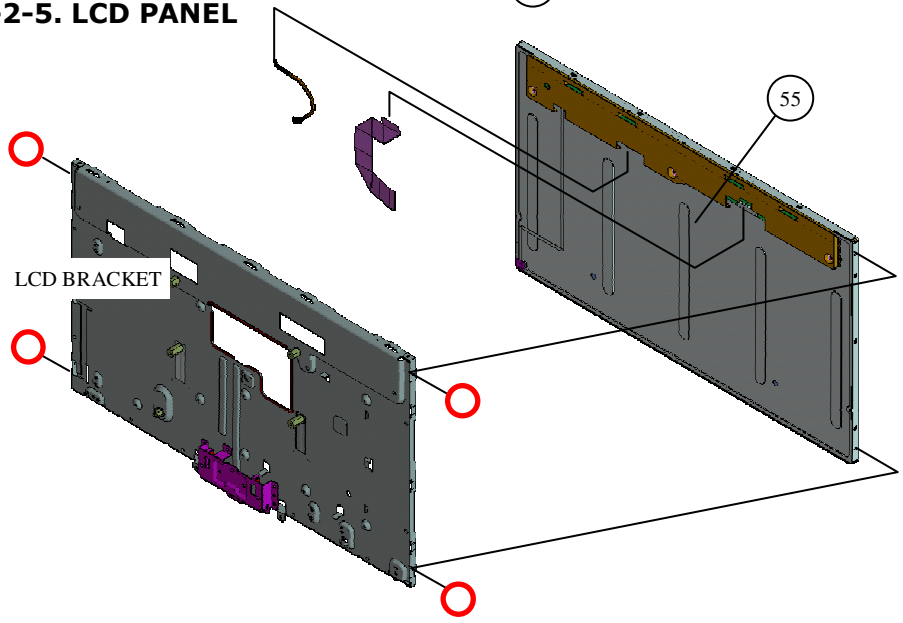
REF. No.		PART No.	DESCRIPTION	REMARK
10	⚠	WS0000501	STATIC CONVERTER (TV)-G1B	
11		WS0000701	SWITCH UNIT	BLACK
		WS0000801	SWITCH UNIT	LIGHT GREY
12		WS0002501	LOUDSPEAKER 30X100MM	
13	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY
14		WS0010601	BRACKET SIDE (22/24/26)	BLACK
		WS0006701	BRACKET SIDE (22/24/26)	LIGHT GREY
15		WS0006201	LABEL (BAT-S MOLD SIDE)	BLACK
		WS0006301	LABEL (BAT-S MOLD SIDE)	WHITE
16		WS0000101	WIRELESS LAN CARD	
		WS0000201	WIRELESS LAN CARD	RUSSIA ONLY
17		WS0001001	ANTENNA	
18		WS0001101	ANTENNA	
19		WS0002301	FRENEL LENS	BLACK
		WS0002401	FRENEL LENS	WHITE
20		WS0013701	HMS3 COMPLETE	
	●	WS0006001	SCREW (+PSW) (M3X6)	

1-2. KDL-24EX320/325

1-2-4. BATS BOARD, BEZEL, HLR2 BOARD



1-2-5. LCD PANEL

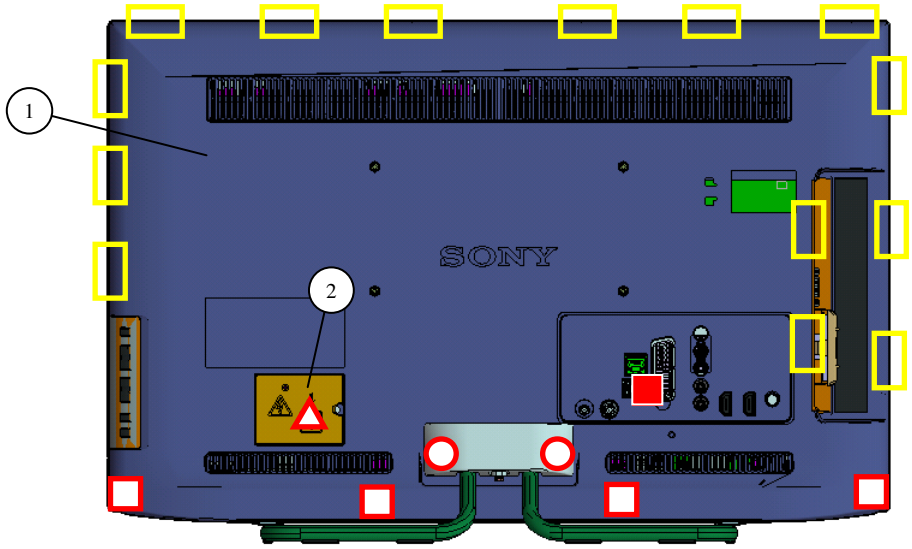


REF. No.		PART No.	DESCRIPTION	REMARK
50		WS0021601	SHEET, INSULATION (G1)	
51	🔓	WS0013901	BATS COMPL (SERVICE)	EX320 AEP, RU
	🔓	WS0015401	BATS COMPL (SERVICE)	EX325 AEP
	🔓	WS0014001	BATS COMPL (SERVICE)	EX320 IT
52		WS0002701	FLEXIBLE PRINT CIRCUIT I1 24S	
53		WS0009701	BEZEL(24 SYR)	BLACK
		WS0009801	BEZEL(24 SYR)	WHITE
54		WS0013601	HLR2 MOUNT(B-O-AEP)	BLACK
		WS0013801	HLR2 MOUNT(W-O-AEP)	WHITE
55		1-811-316-11	LCD PANEL (A24V0)	
○		WS0002801	SCREW, +PSW M4X12	
■		WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3	
●		WS0006001	SCREW (+PSW) (M3X6)	

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

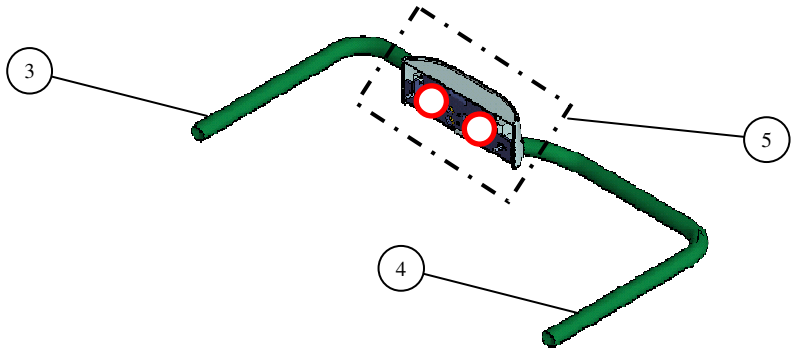
1-3. KDL-26EX320/321/325

1-3-1. STAND BLOCK, REAR COVER, AC COVER

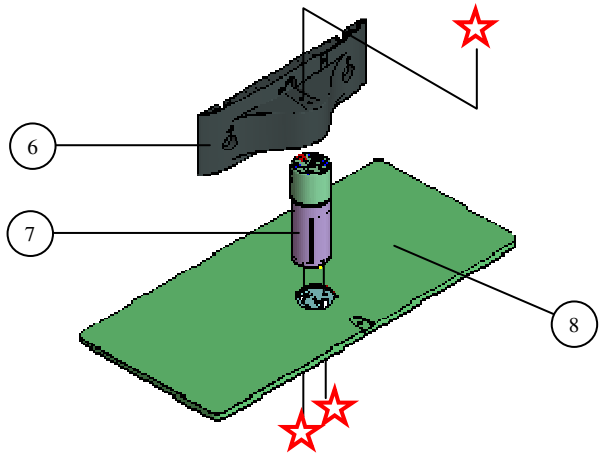


REF. No.		PART No.	DESCRIPTION	REMARK
1		WS0010801	REAR COVER (26 SYR)	
		WS0010901	REAR COVER (26 SYR)	EX325
2	⚠	WS0010501	COVER, AC(S)	
3		WS0005101	STAND, PIPE L(S)	
4		WS0005301	STAND, PIPE R(S)	
5		WS0011101	STAND, HEAD P (SS)	
6		WS0011001	STAND, HEAD(S2)	
7		WS0021101	NECK(S2)	
8		WS0004501	STAND, BASE(M2)	
		WS0002801	SCREW, +PSW M4X12	
		WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3	
		WS0005801	SCREW +BVTP 4X12 TYPE2 IT-3	
		WS0003201	SCREW, +PSW M3X6 W12	
		WS0007001	USER SCREW ST	

1-3-2a. HEAD STAND, PIPE STAND (EX320/EX325)

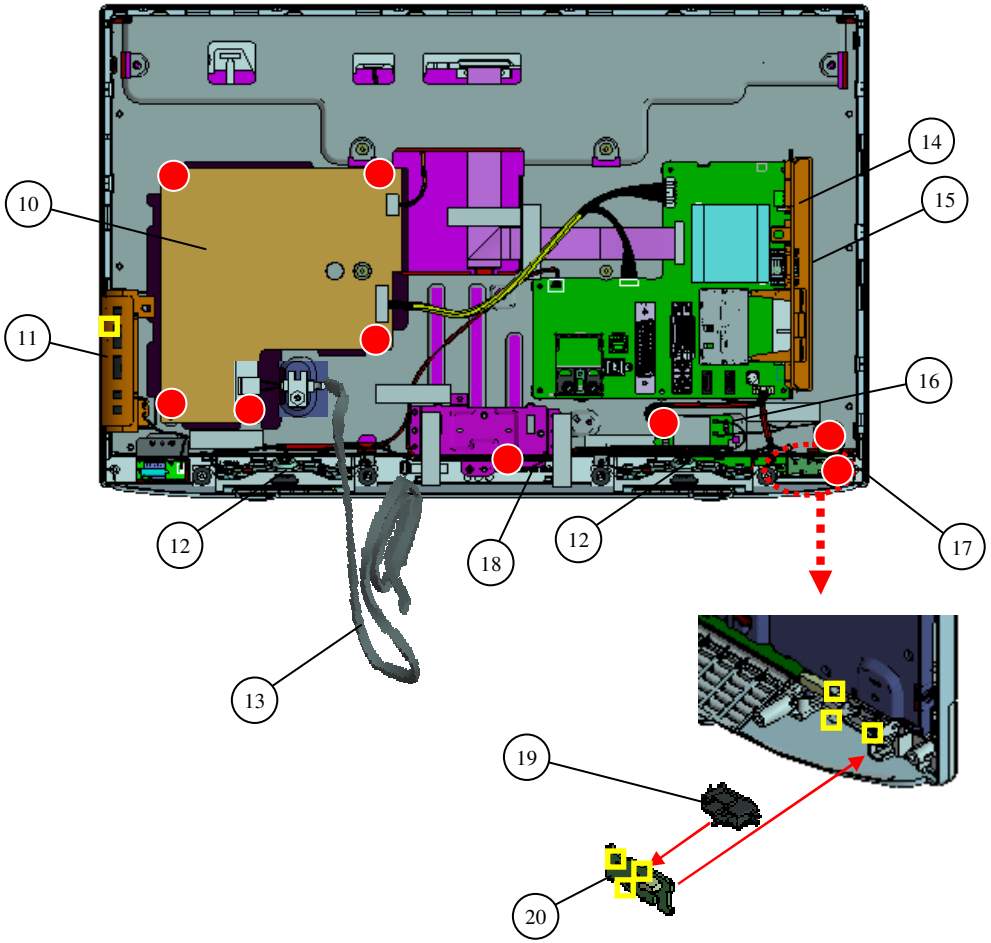


1-3-2b. HEAD STAND, NECK AND BASE STAND (EX321)



1-3. KDL-26EX320/321/325

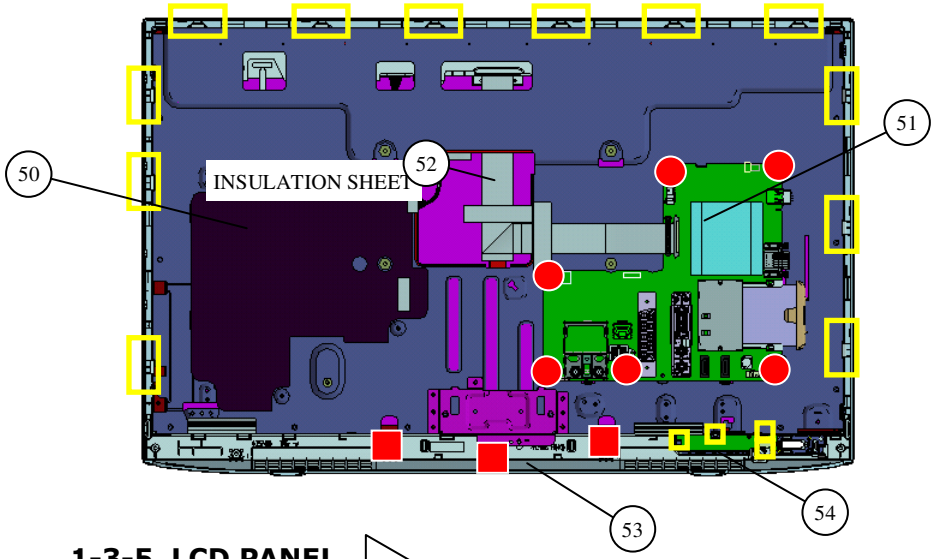
1-3-3. G1B BOARD, SPEAKER, SWITCH UNIT, HMS3 BOARD, WIFI MODULE



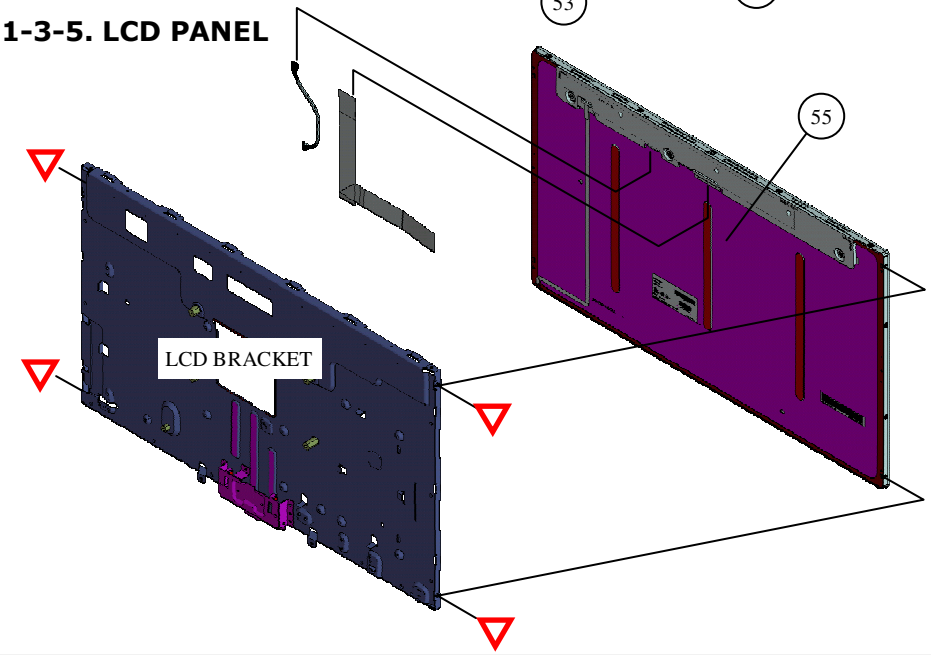
REF. No.		PART No.	DESCRIPTION	REMARK
10	⚠	WS0000501	STATIC CONVERTER (TV)-G1B	
11		WS0000701	SWITCH UNIT	
12		WS0002501	LOUDSPEAKER 30X100MM	
13	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY
14		WS0010601	BRACKET SIDE (22/24/26)	
15		WS0006201	LABEL (BAT-S MOLD SIDE)	
16		WS0000101	WIRELESS LAN CARD	
		WS0000201	WIRELESS LAN CARD	RUSSIA ONLY
17		WS0001001	ANTENNA	
18		WS0001101	ANTENNA	
19		WS0002301	FRENEL LENS	
20		WS0013701	HMS3 COMPLETE	
●		WS0006001	SCREW (+PSW) (M3X6)	

1-3. KDL-26EX320/321/325

1-3-4. BATS BOARD, BEZEL, HLR2 BOARD



1-3-5. LCD PANEL



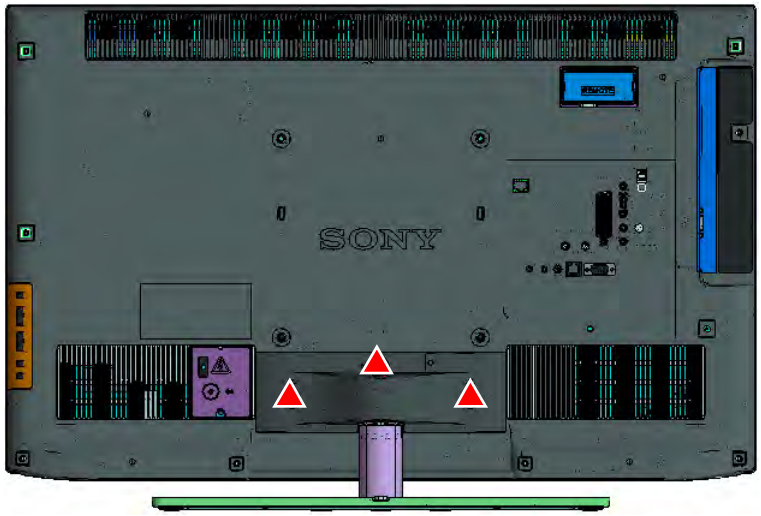
REF. No.		PART No.	DESCRIPTION	REMARK
50		WS0021601	SHEET, INSULATION (G1)	
51	🔒	WS0012901	BATS COMPL (SERVICE)	EX320/321 AEP, RU
	🔒	WS0013101	BATS COMPL (SERVICE)	EX325 AEP
	🔒	WS0013001	BATS COMPL (SERVICE)	EX320 IT
52		WS0002001	FLEXIBLE FLAT CABLE I1 26WS	
53		WS0011201	BEZEL(26 SYR)	
54		WS0013601	HLR2 MOUNT(B-O-AEP)	
55		1-811-321-11	LCD PANEL (L26SDA2)	

▽	WS0020701	SCREW, +PSW M3X8
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3
●	WS0006001	SCREW (+PSW) (M3X6)

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

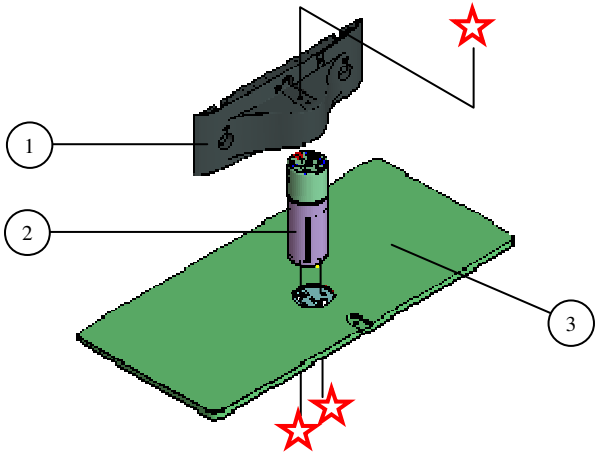
1-4. KDL-32EX421/425/523/524/525

1-4-1. STAND BLOCK



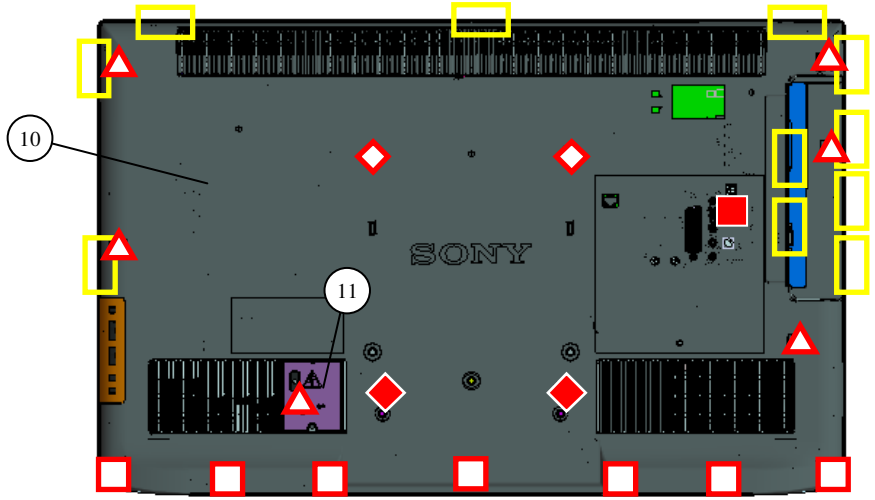
REF. No.	PART No.	DESCRIPTION	REMARK
1	WS0011401	STAND, HEAD(M9)	
2	WS0003401	NECK(M9)	EX421,523,524,525
	WS0003501	NECK(M9)	EX425
3	WS0011501	STAND, BASE(M2)	EX421
	WS0004501	STAND, BASE(M2)	EX421,523,524,525
▲	WS0002901	SCREW, +PSW M5X16	
☆	WS0007001	USER SCREW ST	

1-4-2. HEAD STAND, NECK AND BASE STAND

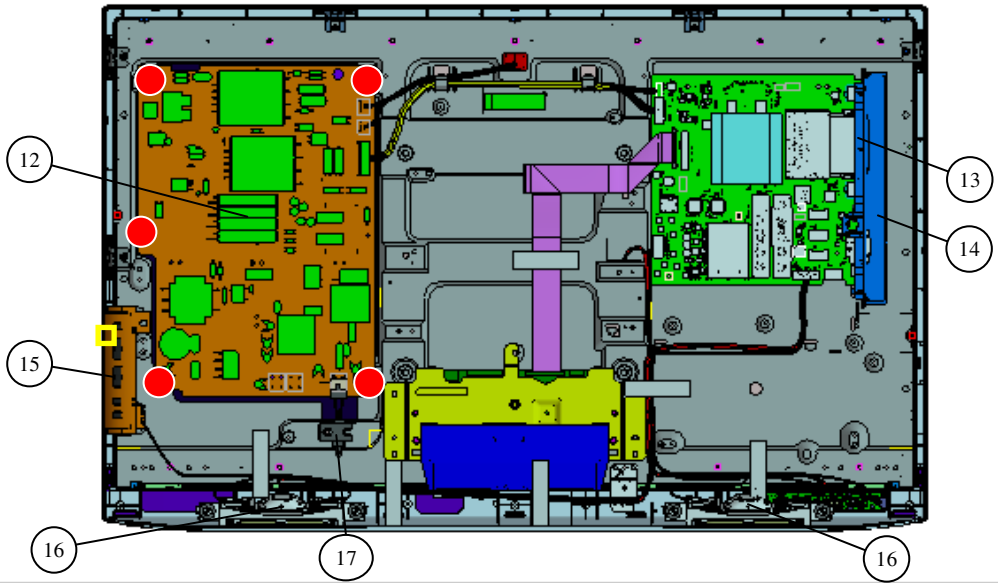


1-4. KDL-32EX421/425/523/524/525

1-4-3. REAR COVER, AC COVER



1-4-4. GE2A BOARD, SWITCH UNIT, SPEAKER



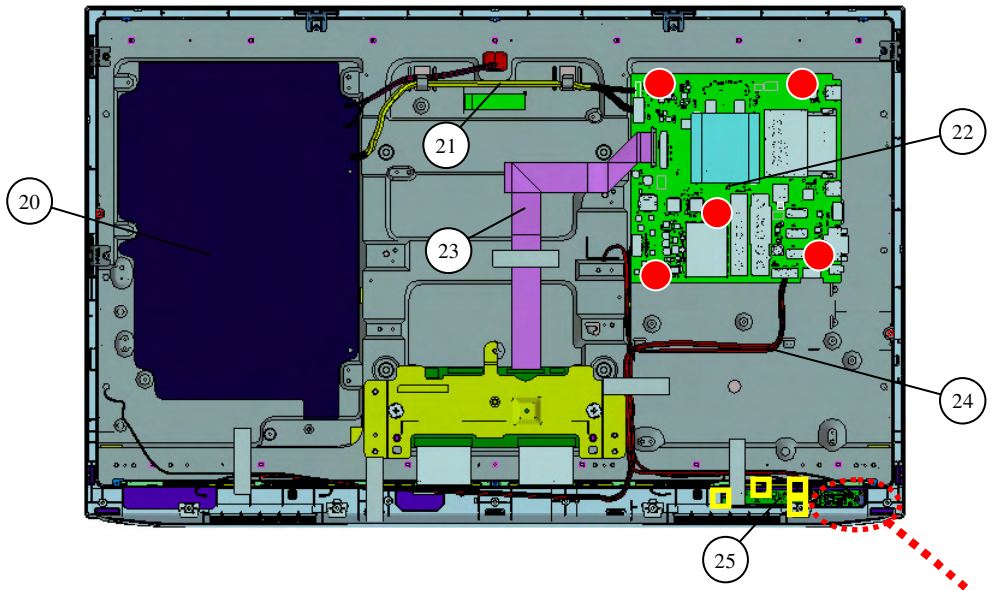
REF. No.		PART No.	DESCRIPTION	REMARK
10		WS0009901	REAR COVER(32)	EX425,525
		WS0015101	REAR COVER(32)	EX421,523,524
11	⚠	WS0011801	COVER, AC(M)	
12	⚠	WS0000301	STATIC CONVERTER (TV)-GE2A	
13		WS0011301	BRACKET SIDE (BAT-V32) MOLD	
14		WS0006101	LABEL(BAT-V MOLD SIDE)	
		WS0015301	LABEL(BAT-V MOLD SIDE)	EX523
15		WS0000701	SWITCH UNIT	
16		WS0030401	LOUDSPEAKER	
17	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY

△	WS0003201	SCREW, +PSW M3X6 W12
◇	WS0004701	SCREW, ORNAMENTAL M6X12
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3
◆	WS0006901	JOINT STAND
□	WS0005801	SCREW, +BVTP 4X12 TYPE2 IT-3

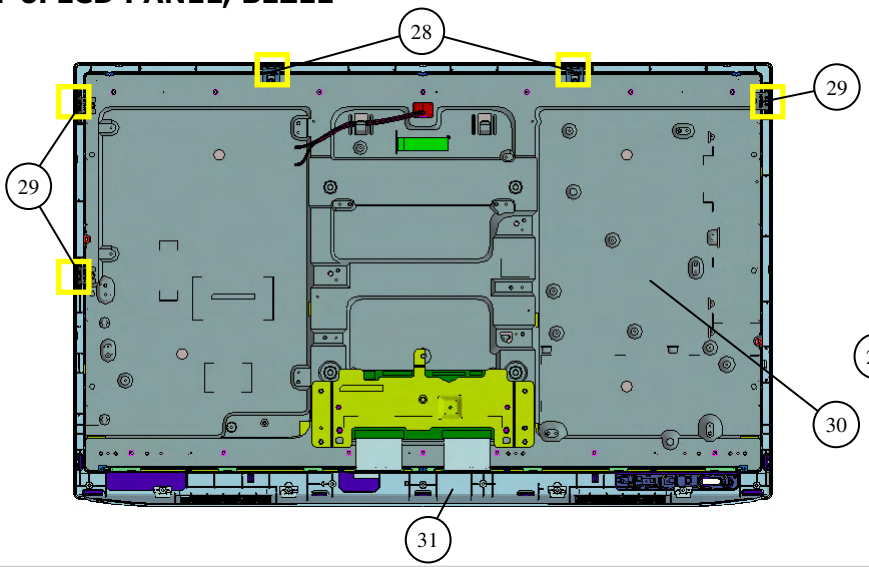
Note:
When removing the rear cover, care must be taken to avoid damage to the rear cover and power supply cord.
For removal of the rear cover and power supply cord, please refer to "APPENDIX-1".

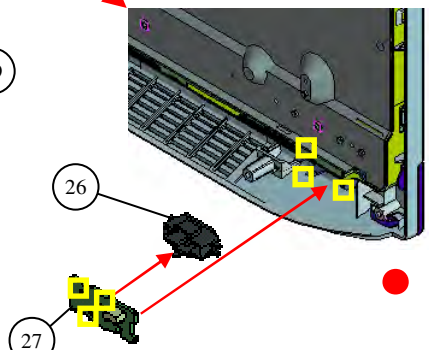
1-4. KDL-32EX421/425/523/524/525

1-4-5. BAT-V BOARD, HLR2 BOARD, HMS3 BOARD



1-4-6. LCD PANEL, BEZEL



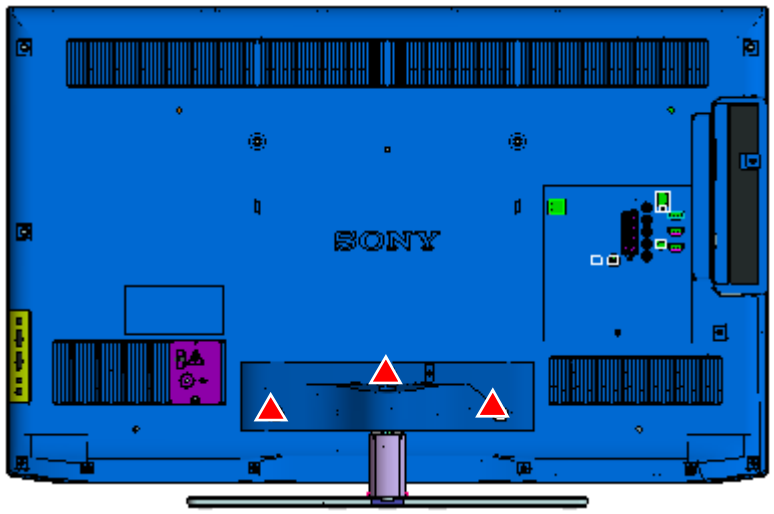


REF. No.		PART No.	DESCRIPTION	REMARK
20		WS0004801	SHEET, INSULATION (G10)	
21	*	WS0009001	CONNECTOR ASSY 28P	
22	🔒	WS0013401	BAT-V COMPL (SERVICE)	EX425
	🔒	WS0014301	BAT-V COMPL (SERVICE)	EX421, 523, 524
	🔒	WS0014401	BAT-V COMPL (SERVICE)	EX525
	🔒	WS0013301	BAT-V COMPL (SERVICE)	EX421(IT)
		WS0030301	FFCWITH CONNECTOR I1 32S	EX523,524,525
23		WS0009301	HARNESS ASSY	
24	*	WS0015001	HARNESS ASSY	EX523
	*	WS0013601	HLR2 MOUNT(B-O-AEP)	
25		WS0002301	FRENEL LENS	
26	*	WS0013701	HMS3 MOUNT	
27		WS0011701	BRACKET, PANEL (H)	
28		WS0011601	BRACKET, PANEL (C)	
29		1-811-323-11	LCD PANEL (S32ESB)	EX421,425
30		1-811-324-12	LCD PANEL (S32ESL)	EX523,524,525
		WS0004401	BEZEL(32 SYR)	
31		WS0015201	BEZEL(32 SYR)	EX523
		'S0006001	SCREW (+PSW) (M3X6)	

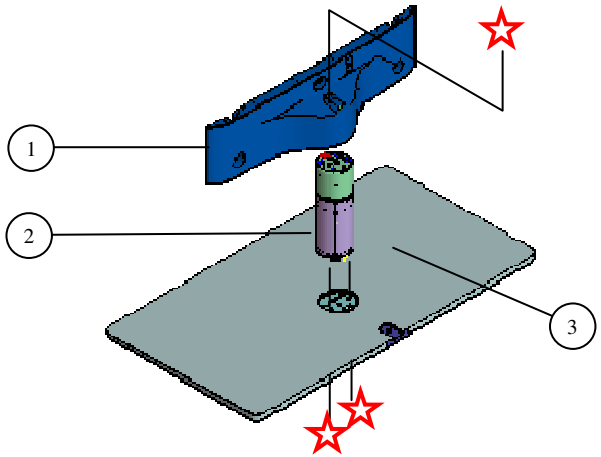
Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

1-5. KDL-37EX521/524/525

1-5-1. STAND BLOCK



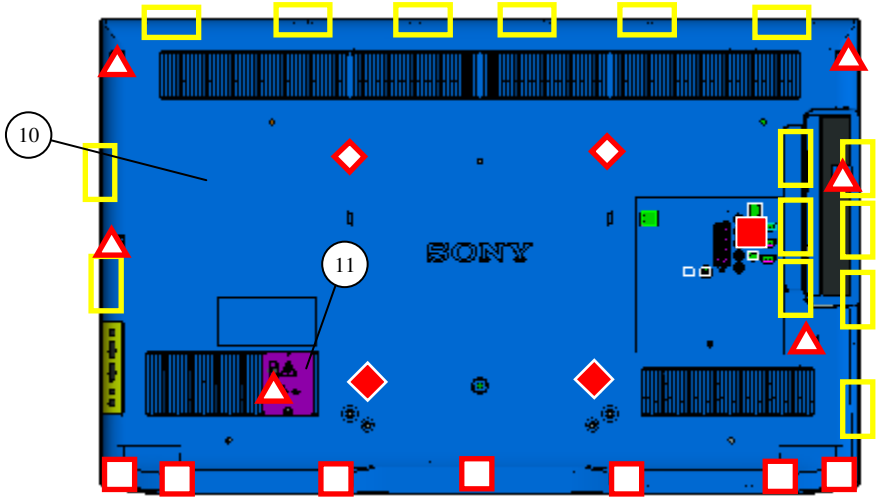
1-5-2. HEAD STAND, NECK AND BASE STAND



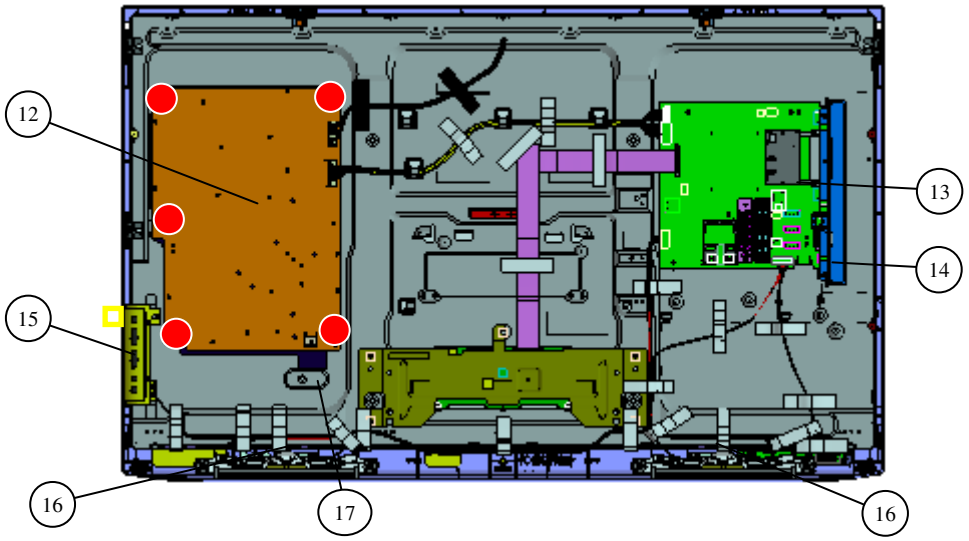
REF. No.	PART No.	DESCRIPTION	REMARK
1	WS0012601	STAND, HEAD(ML9)	
2	WS0014801	NECK(ML9)	
3	WS0012701	STAND, BASE(ML2)	
▲		SCREW, +PSW M5X16	IN BAG, ASSY
☆		USER SCREW ST	IN BAG, ASSY

1-5. KDL-37EX521/524/525

1-5-3. REAR COVER, AC COVER



1-5-4. GE2A BOARD, SWITCH UNIT, SPEAKER

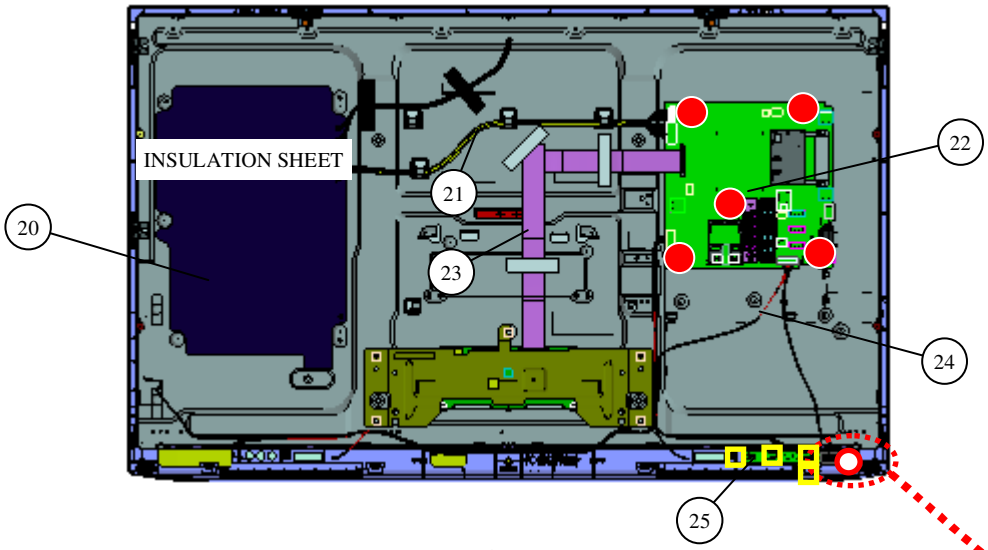


REF. No.		PART No.	DESCRIPTION	MARK
10		WS0029301	REAR COVER(37)	EX521, EX524
		WS0029601	REAR COVER(37)	EX525
11	⚠	WS0011801	COVER, AC(M)	
12	⚠	WS0000301	STATIC CONVERTER (TV)-GE2A	
13		WS0011301	BRACKET SIDE (BAT-V) MOLD	
14		WS0006101	LABEL(BAT-V MOLD SIDE)	
15		WS0000701	SWITCH UNIT	
16		WS0002601	LOUDSPEAKER	
17	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY
	△	WS0003201	SCREW, +PSW M3X6 W12	
	◇	WS0004701	SCREW, ORNAMENTAL M6X12	
	■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3	
	◆	WS0006901	JOINT STAND	
	□	WS0005801	SCREW, +BVTP 4X12 TYPE2 IT-3	

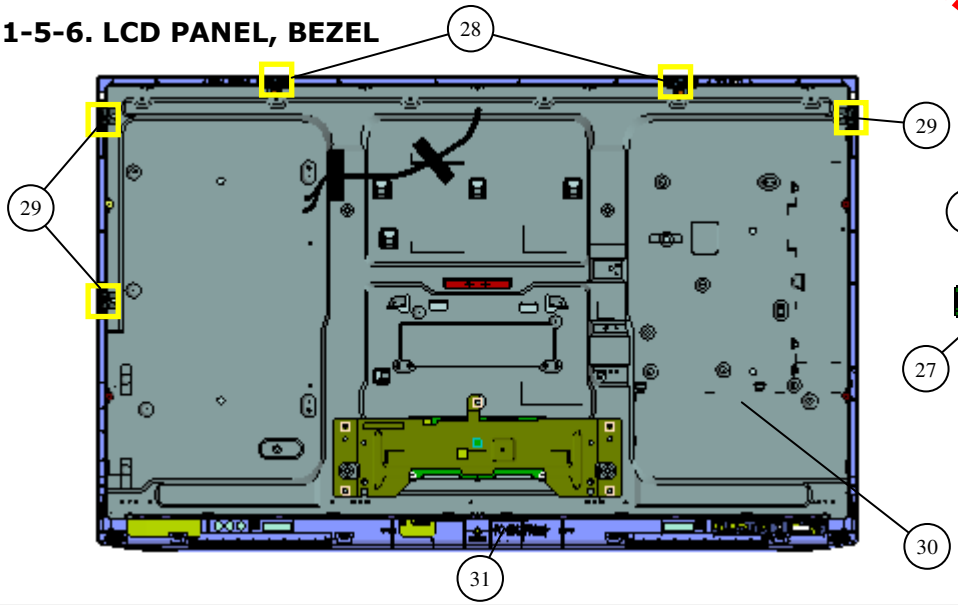
Note:
When removing the rear cover, care must be taken to avoid damage to the rear cover and power supply cord.
For removal of the rear cover and power supply cord, please refer to "APPENDIX-1".

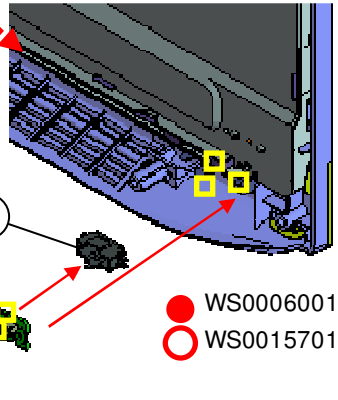
1-5. KDL-37EX521/524/525

1-5-5. BAT-V BOARD, HLR2 BOARD, HMS3 BOARD



1-5-6. LCD PANEL, BEZEL





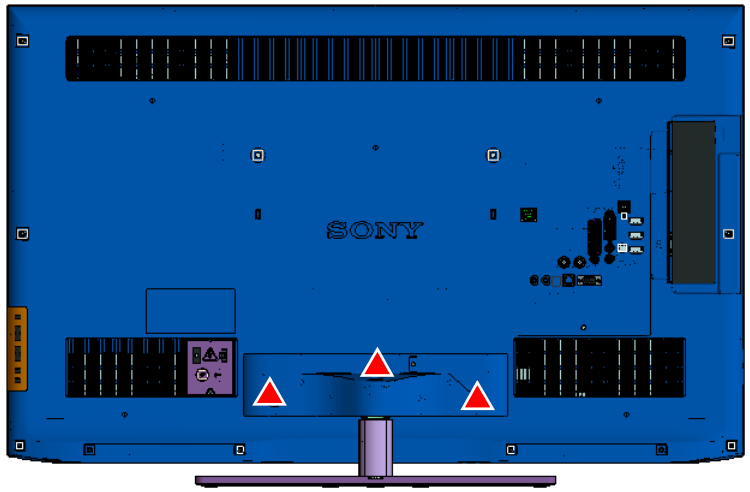
REF. No.		PART No.	DESCRIPTION	REMARK
20		WS0004801	SHEET, INSULATION (G10)	
21	*	WS0028901	CONNECTOR ASSY 28P	
22		WS0014101	BAT-V COMPLETE	EX521 AEP
		WS0014201	BAT-V COMPLETE	EX521 IT
		WS0014301	BAT-V COMPLETE	EX524
		WS0014401	BAT-V COMPLETE	EX525
23	*	WS0029001	FLEXIBLE FLAT CABLE I1 37S	
24	*	WS0030901	HARNESS ASSY	
25		WS0013601	HLR2 MOUNT(B-O-AEP)	
26	*	WS0002301	FRENEL LENS	
27		WS0013701	HMS3 MOUNT	
28		WS0011701	BRACKET, PANEL (H)	
29		WS0011601	BRACKET, PANEL (C)	
30		1-811-318-11	LCD PANEL (A37VO)	
31		WS0028601	BEZEL(37 SYR)	

● WS0006001	SCREW (+PSW) (M3X6)
○ WS0015701	SCREW +BVTP 3X8 TYPE2 IT-3

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

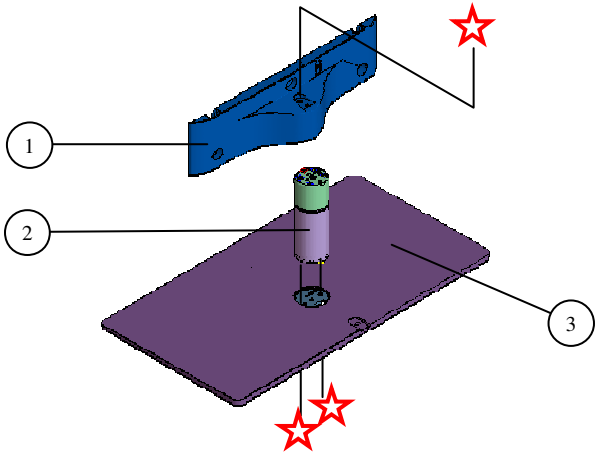
1-6. KDL-40EX523/524/525

1-6-1. STAND BLOCK



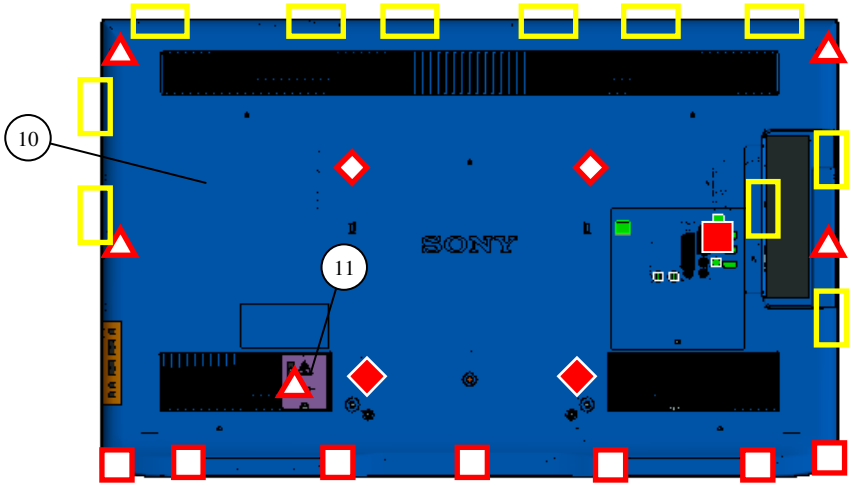
REF. No.	PART No.	DESCRIPTION	REMARK
1	WS0012601	STAND, HEAD(ML9)	
2	WS0014801	NECK(ML9)	
3	WS0012701	STAND, BASE(ML2)	
▲	WS0002901	SCREW, +PSW M5X16	
☆	WS0007001	USER SCREW ST	

1-6-2. HEAD STAND, NECK AND BASE STAND



1-6. KDL-40EX523/524/525

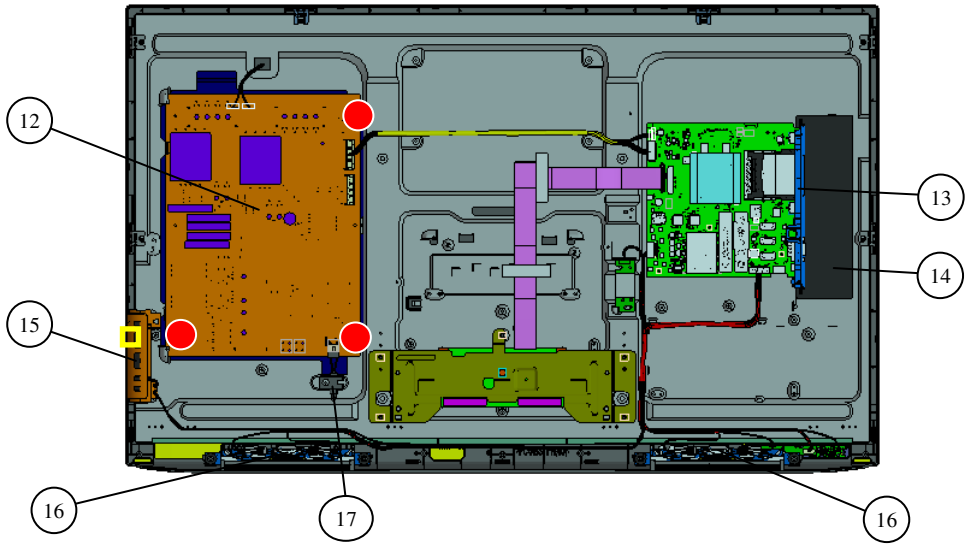
1-6-3. REAR COVER, AC COVER



REF. No.		PART No.	DESCRIPTION	REMARK
10		WS0007401	REAR COVER(40)	EX523, EX524
		WS0007501	REAR COVER(40)	EX525
11	⚠	WS0011801	COVER, AC(M)	
12	⚠	WS0000601	STATIC CONVERTER (TV)-GE3A	
13		WS0007101	BRACKET SIDE (BAT-V) MOLD	
14		WS0006401	LABEL,SHEET(BAT-V MOLD SIDE)	EX524, EX525
		WS0006501	LABEL,SHEET(BAT-V MOLD SIDE)	EX523
15		WS0000701	SWITCH UNIT	
16		WS0002601	LOUDSPEAKER	
17	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY

△	WS0003201	SCREW, +PSW M3X6 W12
◇	WS0004701	SCREW, ORNAMENTAL M6X12
■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3
◆	WS0006901	JOINT STAND
□	WS0005801	SCREW, +BVTP 4X12 TYPE2 IT-3

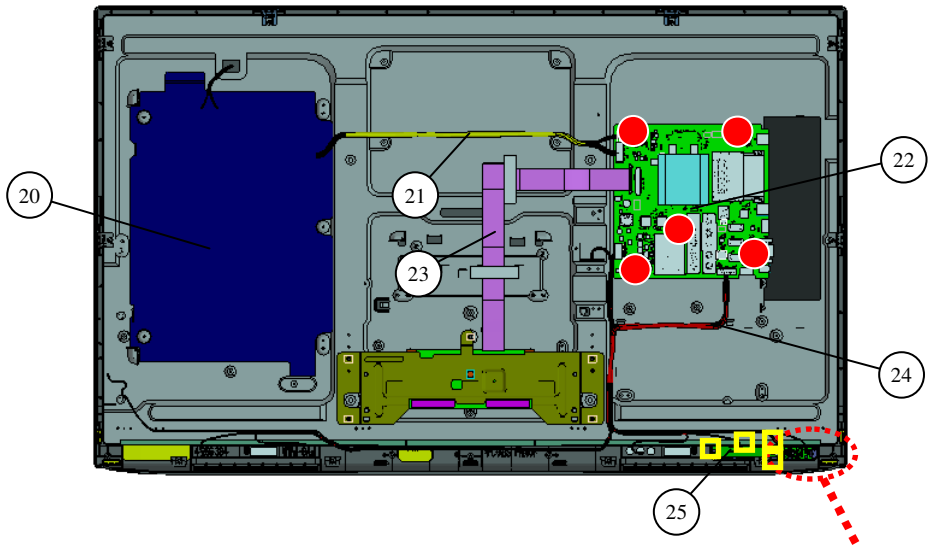
1-6-4. GE3A BOARD, SWITCH UNIT, SPEAKER



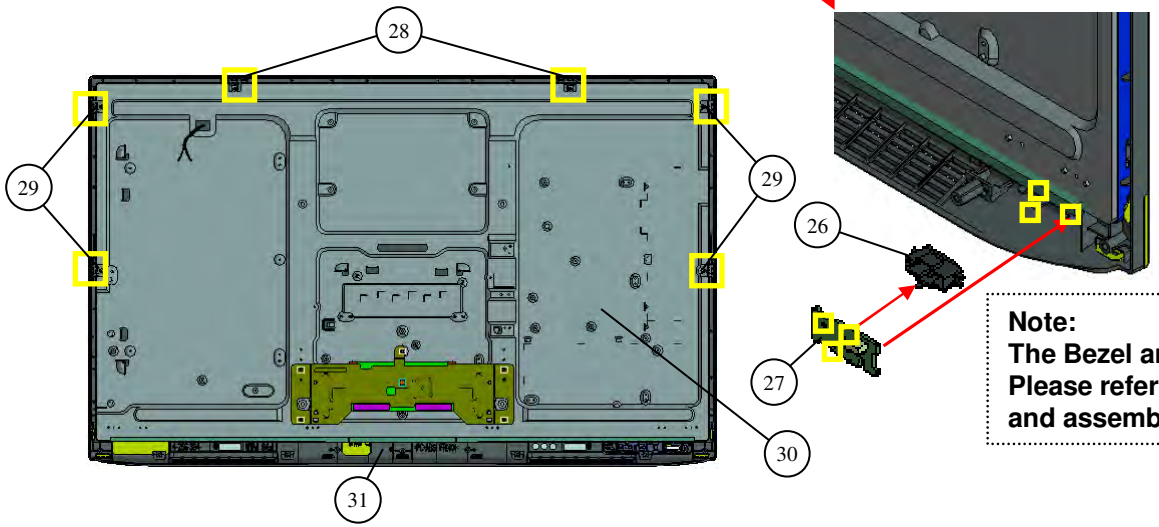
Note:
When removing the rear cover, care must be taken to avoid damage to the rear cover and power supply cord.
For removal of the rear cover and power supply cord, please refer to "APPENDIX-1".

1-6. KDL-40EX523/524/525

1-6-5. BAT-V BOARD, HLR2 BOARD, HMS3 BOARD



1-6-6. LCD PANEL, BEZEL

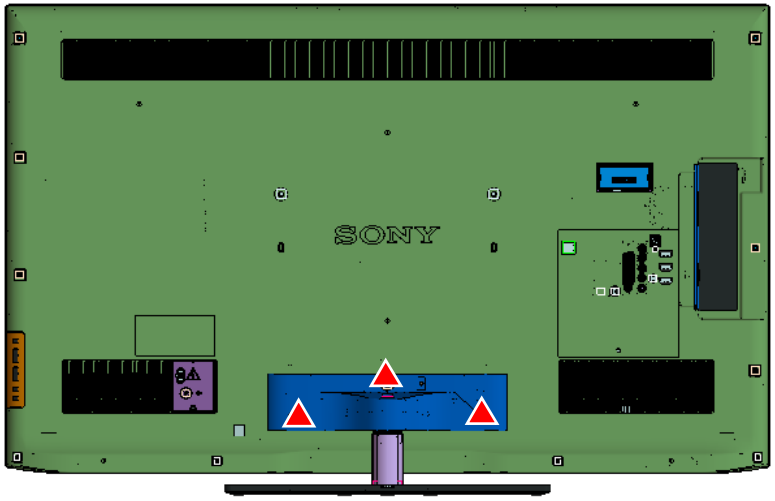


REF. No.		PART No.	DESCRIPTION	REMARK
20		WS0015601	SHEET, INSULATION (G4)	
21	*	WS0009101	CONNECTOR ASSY 28P	
22	🔓	WS0014301	BAT-V COMPLETE	EX523, EX524
	🔓	WS0014401	BAT-V COMPLETE	EX525
23	*	WS0021001	FFCWITH CONNECTOR I1 40S	
24	*	WS0009401	HARNESS ASSY	EX524, EX525
	*	WS0014501	HARNESS ASSY	EX523
25		WS0013601	HLR2 MOUNT(B-O-AEP)	
26	*	WS0002301	FRENEL LENS	
27		WS0013701	HMS3 MOUNT	
28		WS0011701	BRACKET, PANEL (H)	
29		WS0011601	BRACKET, PANEL (C)	
30		1-811-325-12	LCD PANEL (S40ESL)	
31		WS0004301	BEZEL(40 SYR)	EX524, EX525
		WS0014901	BEZEL(40 SYR)	EX523
●		WS0006001	SCREW (+PSW) (M3X6)	

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

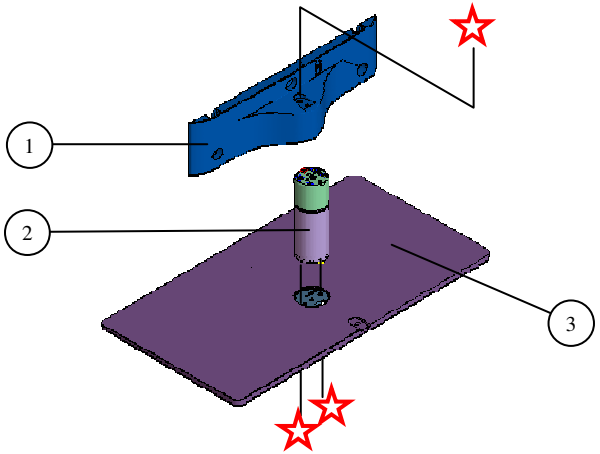
1-7. KDL-46EX520/521/524/525

1-7-1. STAND BLOCK



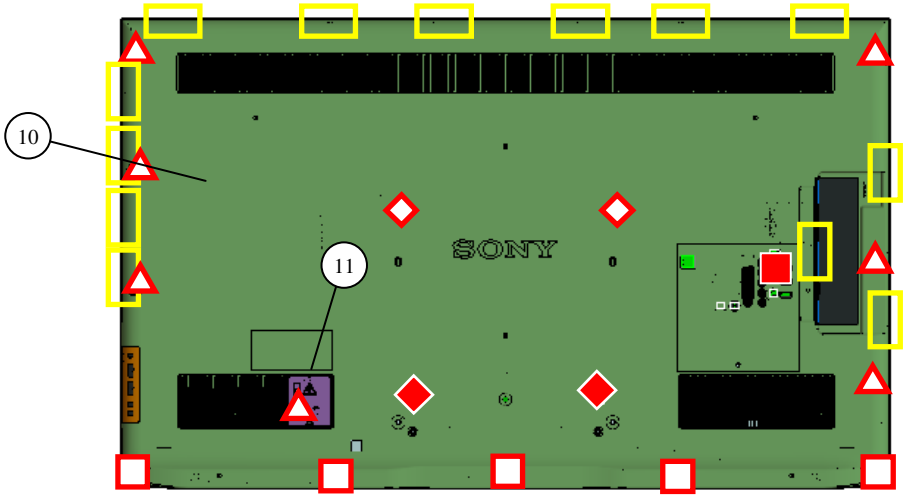
REF. No.	PART No.	DESCRIPTION	REMARK
1	WS0012601	STAND, HEAD(ML9)	
2	WS0003801	NECK(L9)	
3	WS0012801	STAND, BASE(L2)	
▲	WS0002901	SCREW, +PSW M5X16	
☆	WS0007001	USER SCREW ST	

1-7-2. HEAD STAND, NECK AND BASE STAND

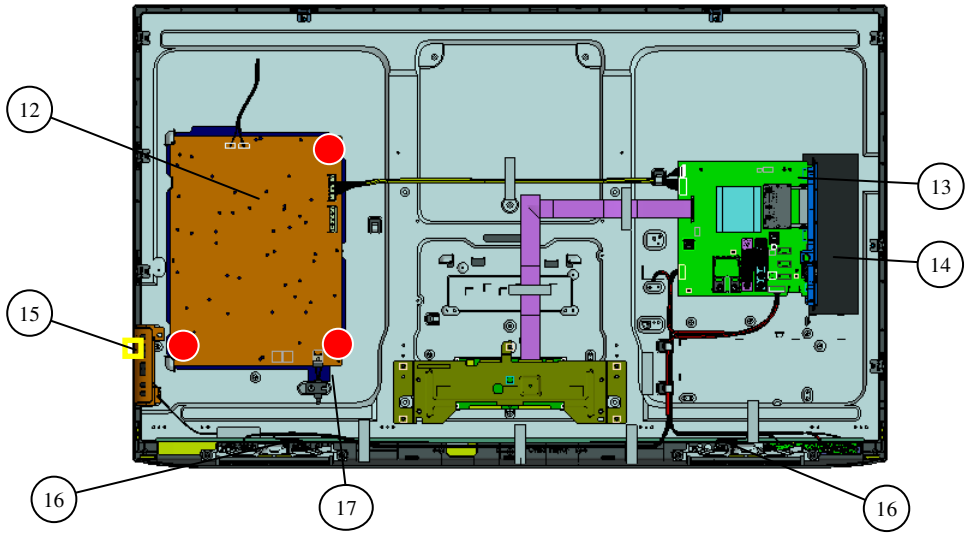


1-7. KDL-46EX520/521/524/525

1-7-3. REAR COVER, AC COVER



1-7-4. GE2A BOARD, SWITCH UNIT, SPEAKER, WIFI MODULE

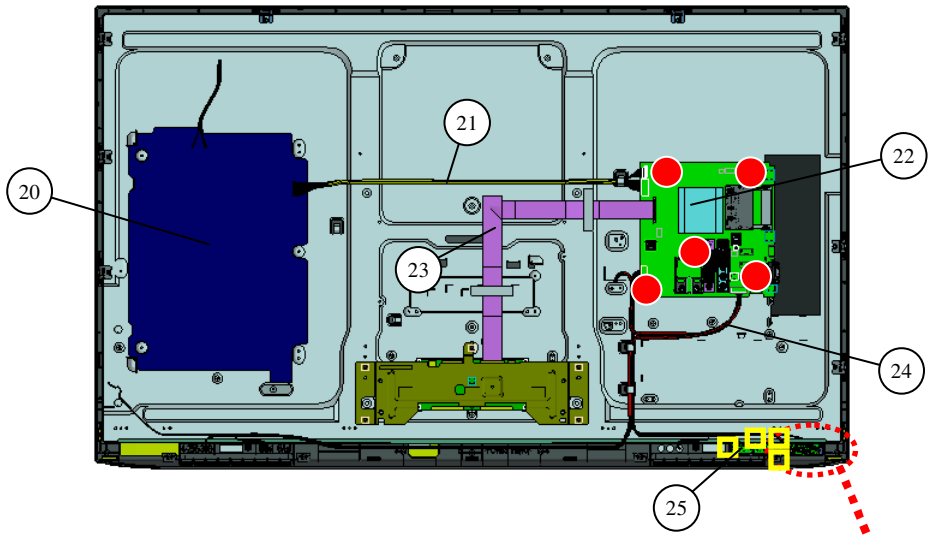


REF. No.		PART No.	DESCRIPTION	REMARK
10		WS0007201	REAR COVER(46)	EX520,EX521,EX524
		WS0007301	REAR COVER(46)	EX525
11	⚠	WS0011801	COVER, AC(M)	
12	⚠	WS0000601	STATIC CONVERTER (TV)-GE3A	
13		WS0007101	BRACKET SIDE (BAT-V) MOLD	
14		WS0006401	LABEL,SHEET(BAT-V MOLD SIDE)	EX521,EX524,EX525
		WS0006501	LABEL,SHEET(BAT-V MOLD SIDE)	EX520
15		WS0000701	SWITCH UNIT	
16		WS0002601	LOUDSPEAKER	
17	⚠	WS0005901	POWER-SUPPLY CORD (WITH CONN.)	
	⚠	WS0014701	POWER-SUPPLY CORD (WITH CONN.)	UK ONLY
	△	WS0003201	SCREW, +PSW M3X6 W12	
	◇	WS0004701	SCREW, ORNAMENTAL M6X12	
	■	WS0010101	SCREW +BVTP 3X12 TYPE2 IT-3	
	◆	WS0006901	JOINT STAND	
	□	WS0005801	SCREW, +BVTP 4X12 TYPE2 IT-3	

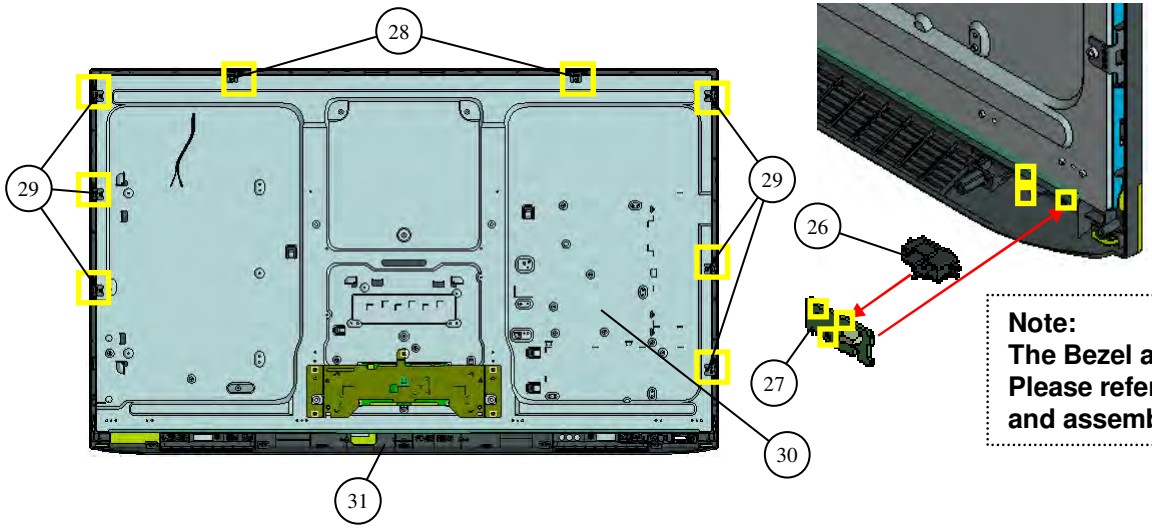
Note:
When removing the rear cover, care must be taken to avoid damage to the rear cover and power supply cord.
For removal of the rear cover and power supply cord, please refer to "APPENDIX-1".

1-7. KDL-46EX520/521/524/525

1-7-5. BAT-V BOARD, HLR2 BOARD, HMS3 BOARD



1-7-6. LCD PANEL, BEZEL



REF. No.		PART No.	DESCRIPTION	REMARK
20		WS0015601	SHEET, INSULATION (G4)	
21	*	WS0009201	CONNECTOR ASSY 28P	
22		WS0014101	BAT-S COMPLETE	EX520/521 AEP
		WS0014401	BAT-S COMPLETE	EX525 AEP
		WS0014301	BAT-S COMPLETE	EX524 AEP
		WS0014201	BAT-S COMPLETE	EX521 IT
23	*	WS0002201	FFCWITH CONNECTOR I1 46S	
24	*	WS0009501	HARNESS ASSY	
	*	WS0009601	HARNESS ASSY	EX520
25		WS0013601	HLR2 MOUNT(B-O-AEP)	
26	*	WS0002301	FRENEL LENS	
27		WS0013701	HMS3 MOUNT	
28		WS0011701	BRACKET, PANEL (H)	
29		WS0011601	BRACKET, PANEL (C)	
30		1-811-326-11	LCD PANEL (S46ESL)	
31		WS0004001	BEZEL(46 SYR)	
		WS0004201	BEZEL(46 SYR)	EX520
●		WS0006001	SCREW (+PSW) (M3X6)	

Note:
The Bezel and LCD panel use double sided tape during installation. Please refer to APPENDIX-2 for the correct procedure for disassembly and assembly methods.

1-8. OTHER PARTS

1-8-1. MISCELLANEOUS

22 Inches

WS0021301	BAG, SCREW ASSY (PS) - See note on page 32.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.
WS0008901	CONNECTOR ASSY 14P CN6201 (G1A) - PANEL (1)
WS0008101	CONNECTOR ASSY 28P CN6001 (BAT-S) - CN6002 (BAT-S) - CN6701 (G1A) (1)
WS0008401	HARNESS ASSY CN9006 (BAT-S) - CN100 (HLR2) - WIFI - HMS3 - SW / CN4601 (BAT-S) - SP (1)

24 Inches

WS0021301	BAG, SCREW ASSY (PS) - See note on page 32.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.
WS0008801	CONNECTOR ASSY 14P CN6201 (G1A) - PANEL (1)
WS0008201	CONNECTOR ASSY 28P CN6001 (BAT-S) - CN6002 (BAT-S) - CN6701 (G1B) (1)
WS0008501	HARNESS ASSY CN9006 (BAT-S) - CN100 (HLR2) - WIFI - HMS3 - SW / CN4601 (BAT-S) - SP (1)

26 Inches

WS0021301	BAG, SCREW ASSY (PS) - See note on page 32.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.
WS0008701	CONNECTOR ASSY 14P CN6201 (G1A) - PANEL (1)
WS0008301	CONNECTOR ASSY 28P CN6001 (BAT-S) - CN6002 (BAT-S) - CN6701 (G1B) (1)
WS0008601	HARNESS ASSY CN9006 (BAT-S) - CN100 (HLR2) - WIFI - HMS3 - SW / CN4601 (BAT-S) - SP (1)

32 Inches

WS0020901	BAG, SCREW ASSY (M) - See note below.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.

37 Inches

WS0020901	BAG, SCREW ASSY (M) - See note below.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.

40 Inches

WS0020901	BAG, SCREW ASSY (M) - See note below.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.

46 Inches

WS0015501	BAG, SCREW ASSY (L) - See note below.
WS0003901	CLAMPER, CABLE
WS0003301	SHEET, RADIATION (BAT-L/V) - Not shown.

Note

The "Bag , Screw Assy (PS)" contains the following:-

Screw, +PSW M4x12 (4 pcs.)

The "Bag , Screw Assy (M)" contains the following:-

Screw, +PSW M5x16 (3 pcs.)
Hex Wrench (1pc.)
User Screw ST (3 pcs.)

The "Bag , Screw Assy (L)" contains the following:-

Screw, +PSW M5x16 (3 pcs.)
Hex Wrench (1pc.)
User Screw ST (4 pcs.)

1-8-2. COMMON PARTS

*WS0005601	TAPE (3M 1350FW-1)15MMX66M WHT	1 ROLL

1-8-3. ACCESSORIES

*WS0014601	MANUAL, INSTRUCTION - EX320 AEP, EX523, EX524
*WS0007601	MANUAL, INSTRUCTION - EX320 AEP, EX421 AEP, EX520 AEP, EX521 AEP
*WS0007701	MANUAL, INSTRUCTION - EX320 AEP, EX421 AEP, EX520 AEP, EX521 AEP, EX524 AEP
*WS0007801	MANUAL, INSTRUCTION - EX320 RU, EX321 AEP, EX421 AEP, EX521 AEP
*WS0007901	MANUAL, INSTRUCTION - EX325 AEP, EX425 AEP, EX525 AEP
*WS0029201	MANUAL, INSTRUCTION - EX320 IT, EX421 IT, EX521 IT
*WS0008001	MANUAL, INSTRUCTION - 32EX525 AEP, 40EX525 AEP
WS0000901	REMOTE COMMANDER (RM-ED045)

HOW TO ENTERING SERVICE MODE

1) Turn on the main power switch to place this set in standby mode.

2) Press the buttons on the remote commander as follows, and entering service mode.

DISPLAY ➡ Channel 5 ➡ Volume + ➡ TV POWER

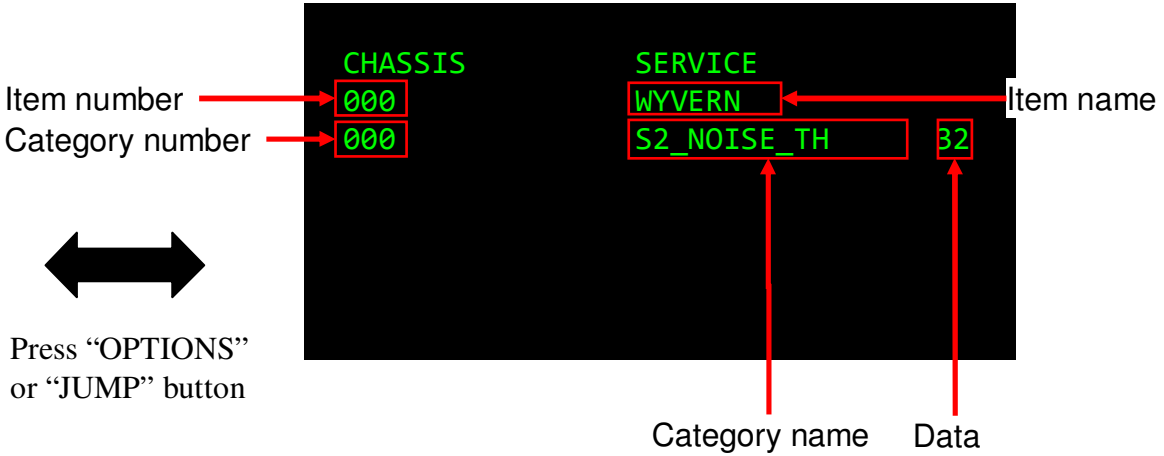
3) Service mode display.

Note: First of all, when you enter Service Mode, you can see "Digital" service mode.
Whenever you press "OPTIONS" or "JUMP" on remote, each service mode is changed.
"Digital" -> "Chassis" -> "VPC"

```
DIGITAL                    SERVICE

001 OP
000 VERS                    ---


<MAIN>                <EXT>
DM1.301W00AA          RF:01.05
WF1.003W00AA          WF:2.0.0.99
DF1.001W00AA          WF:0B
YM1.010W00AA          CAM:X.XXX
DB2.105W00AA          FD:XXXX
(DM1.301W00AA)
DD1.016W00AA
WP0.521W00AA          <PEM>
MID:1C117081          PM1.012W00LU
PID:04020000          PB1.000W00LU
PNL:LTY320AB01        PL1.011J46LUX
POP:X.XXX             PD1.011J46LUX
```



4) How to use the remote commander.

Function	The flow of control
Service mode on	<Test>+<TV>/<Display><5><Vol Up><Power>
Service mode off	<Other> / <Power off + on>
Item up / down	<1>/<4>
Category up / down	<2>/<5>
Data up / down	<3>/<6>
Test reset	<8> + <Mute> + <0>
Read data	<9> + <0>
Execute	<10 or 0>
Write data	<Mute> + <0>
Change module	<Jump> / <Option>

5) After entering service mode, then turn off the power switch.

WHITE BALANCE ADJUSTMENT

Note: Please execute this adjustment if necessary.

Change Data of **"VPC"** service mode. ("006 WB" category)

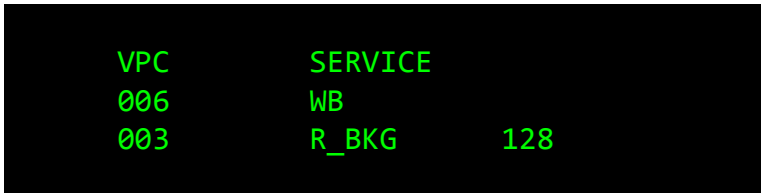
a. Press "1" or "4" on remote to select WB adjustment menu.

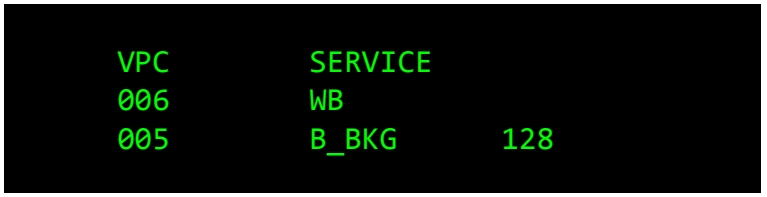
b. Change data by pressing "3" or "6". Each range of these items is 0~255.

c. Press "mute" ＋"0" on remote to save the data.

"SERVICE" comment is changed to "WRITE", indicating writing process.

d. After a while, "WRITE" comment returns to "SERVICE", which means writing process is done.





VCOM ADJUSTMENT

Note: Please execute this adjustment if necessary.

1) Change Data of **"Digital"** service mode.

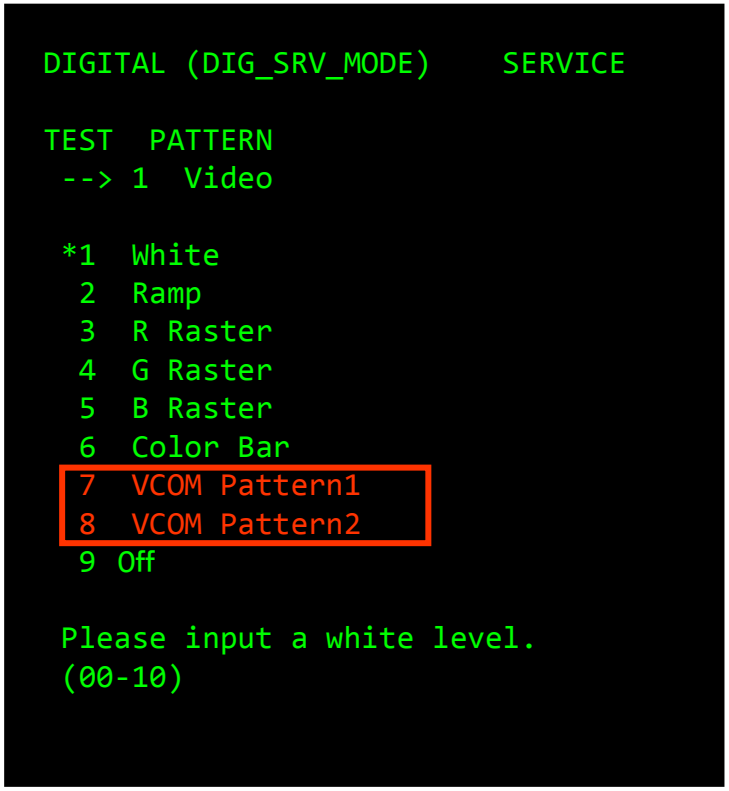
a. Select "003 DIG_SRV_MODE" category by pressing "2 / 5" on remote.

b. Press "0" to go to "TEST PATTERN" Mode.

c. Press "Enter" or "12" to go into Video TEST PATTERN.

d. Press "7" or "8" to select the test pattern.

e. Press "Enter" or "12" twice to show the VCOM TEST PATTERN.

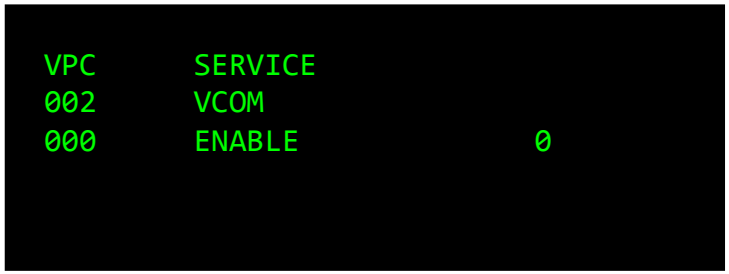


2) Change Data of **"VPC"** service mode.

a. Select "002 VCOM" category by pressing "2 / 5" on remote.

b. Select "000 ENABLE" item by pressing "1 / 4" on remote.

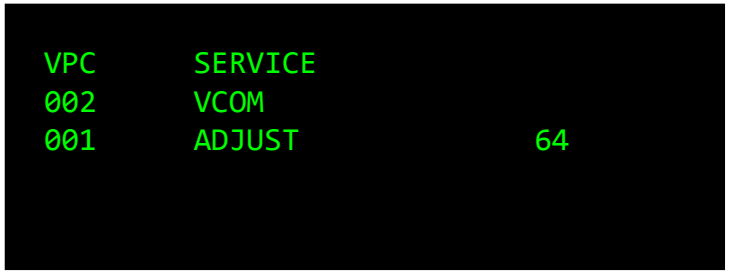
c. Change ENABLE from "0" to "1" to enable VCOM adjustment.



d. Select "001 ADJUST" item by pressing "1 / 4" on remote..

e. Change data by pressing "3 / 6" on remote.

f. Finish the adjustment when the picture seems OK.



3) Change Data of **"Digital"** service mode.

a. Select "007 VCOM" category by pressing "2 / 5" on remote.

b. Change data from "1" to "0" by pressing "3 " on remote.

c. Confirm the final result of the VCOM adjustment.

d. If OK, Finish the VCOM adjustment.
If NG, pressing "6" to show the OSD again and go back to VCOM adjustment 2)-d.

SAVE CHANGING DATA

1) Change Data of **"Chassis"** or **"VPC"** service mode

2) Write data for **"Chassis"** or **"VPC"** service mode

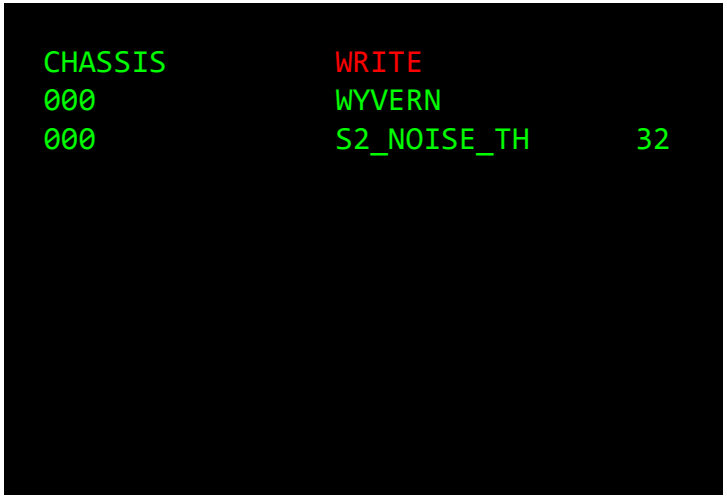
a. Press "Mute" on remote.

It shows green "SERVICE" changes to green "WRITE".

b. Press "0" or "enter" on remote. Green "WRITE" changes to red "WRITE". It indicate writing is processing.

c. After a while, red "WRITE" changes to green "SERVICE". Writing process is done at this point.

3) TV reboot is necessary for applying data change.



CHANGE DATA

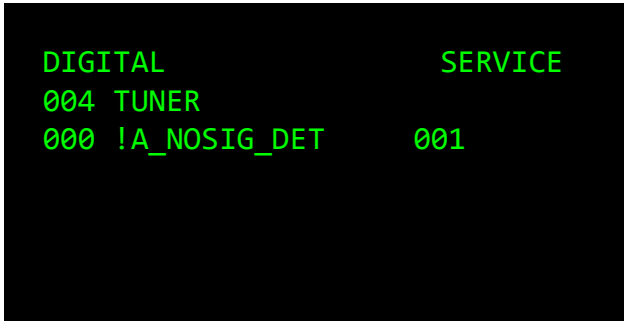
Note: “Digital” service mode don’t have to Save. (except “002 MODEL” and “005 CHAPRESET” category)

1) Change Data of **“Digital”** service mode. (except “003 DIG_SRV_MODE” category)

a. Press “2 / 5” on remote to select (up / down) category.

b. Press “1 / 4” on remote to select (up / down) Item.

c. Press “0 / 10” on remote to select item.



2) Change Data of **“Digital”** service mode. (“003 DIG_SRV_MODE” category)

“003 DIG_SRV_MODE” is one category of “Digital” service mode.

Please note because this operation is special.

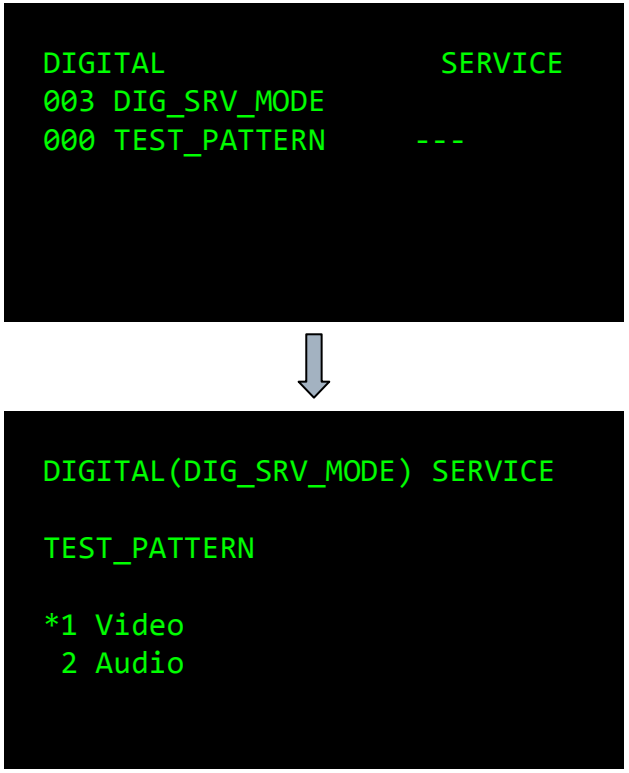
a. Press “2 / 5” on remote to select “003 DIG_SRV_MODE”.

b. Press “1 / 4” on remote to select (up / down) Item.

c. Press “0 / 10” on remote to select item.

d. Press number key “1”~”9” directly. “*” stamp move.

e. Press “12 / enter / select” to decide and advance next step. Press “return”, when returning on the previous page.



3) Write data for **"Digital"** service mode. ("002 MODEL" category)

Note: This procedure operation, when replaced the B board.

Note: Do not write a wrong segment or destination information in Product ID.

When the wrong setting is written, TV may not operate.

000 SEG ----------Select JDM code information

001 DEST ----------Select destination information

002 MODELNAME ---Select model name

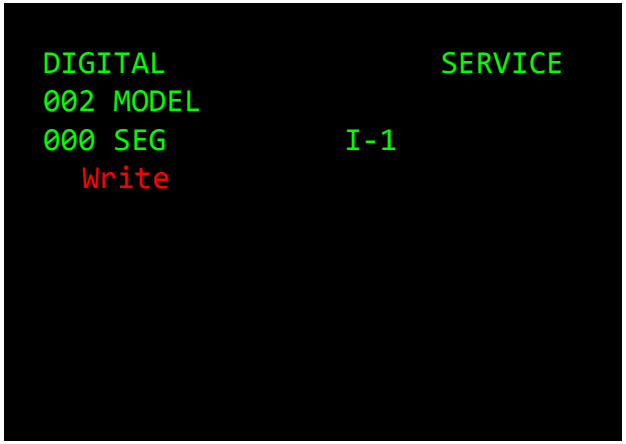
004 SERIAL ---------- Can be set only once for the new board

a. Change data for each model.

b. Press "Mute", "0" on remote sequentially.

It shows red "WRITE". It indicate writing is processing.

c. After a while. Red "WRITE" disappears. Writing process is done after a while.



SET TO SHIPPING CONDITION

How to do shipping condition.

a. Move to **"Digital"** service mode.

Press "8" on remote.

It shows green "SERVICE" changes to green "RST-".

Press "mute" on remote.

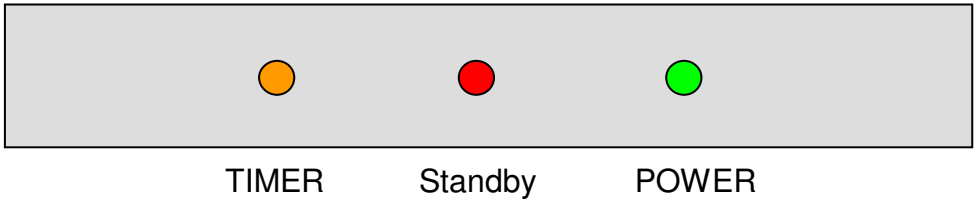
Added green "EXE" after green "RST-" .

d. Press "0" on remote. Green "EXE-RST" changes to red "EXE-RST". It indicate writing is processing.

After a while, red "EXE-RST" changes to green "SERVICE".

And all LED lights.

Writing process is done at this point.



<Another way>

You can set to shipping condition w/o entering Service Mode.

-> "Cursor Up" on remote + "Power Key" on Front panel.

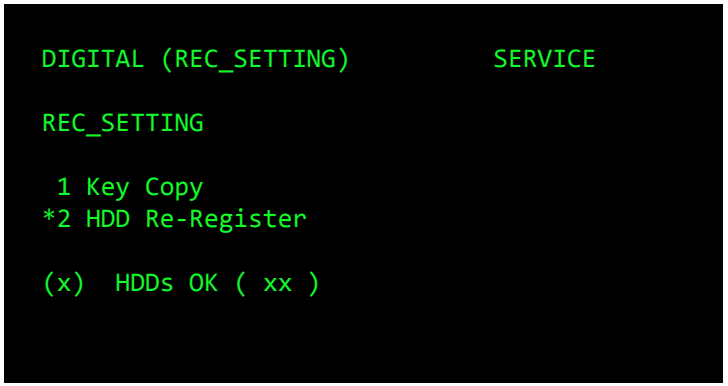
HDD REC SETTING

HDD Re-Register

a. Press “2” to select “HDD Re-Register” Item.

b. Press “Enter” or “12” twice to execute the command.

c. If OK, xx= x+1
If NG, xx=x



SEC 3. TROUBLE SHOOTING

3-1. TRIAGE CHART

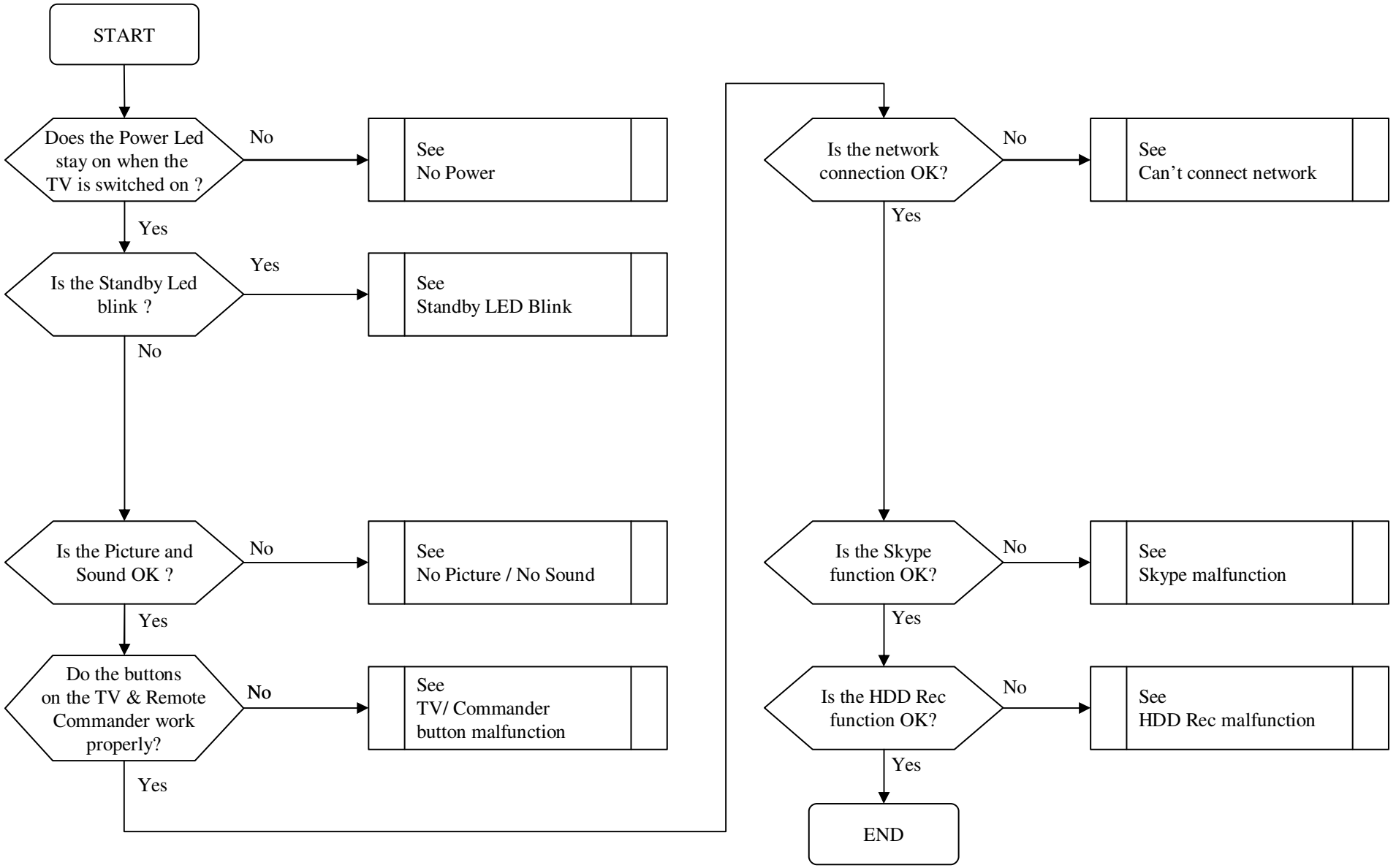
Note: Main board and Power board is different in name every inch. Therefore this section displays difference point in "*".

Reference	Symptoms - Shutdown. Power LED blinking red diagnostics sequences						No Power	Video - missing or distorted			Remote	Network	Audio	Skype
	2	3	5	6	7	8	No Green Power LED (Dead Set)	Stationary colored lines or dots	No video one of Inputs	No video all Inputs	No Remote	Wireless can't connect	No Audio	Skype Can't Work
B* BOARD	▲	●	▲	▲	●	●	▲	▲	●	●	▲	▲	●	▲
G* BOARD	●	▲	▲	●			●						▲	
HLR2 BOARD			▲								●			
SPEAKER		▲											●	
Skype MODULE														●
WIFI MODULE						●						●		▲
LVDS CABLE			▲					▲		▲				
T-CON			●											
LCD PANEL				●	▲			●						
Problem	POWER	POWER AUDIO	PANEL (TCON)	PANEL (INVERTER)	TEMP	Software								

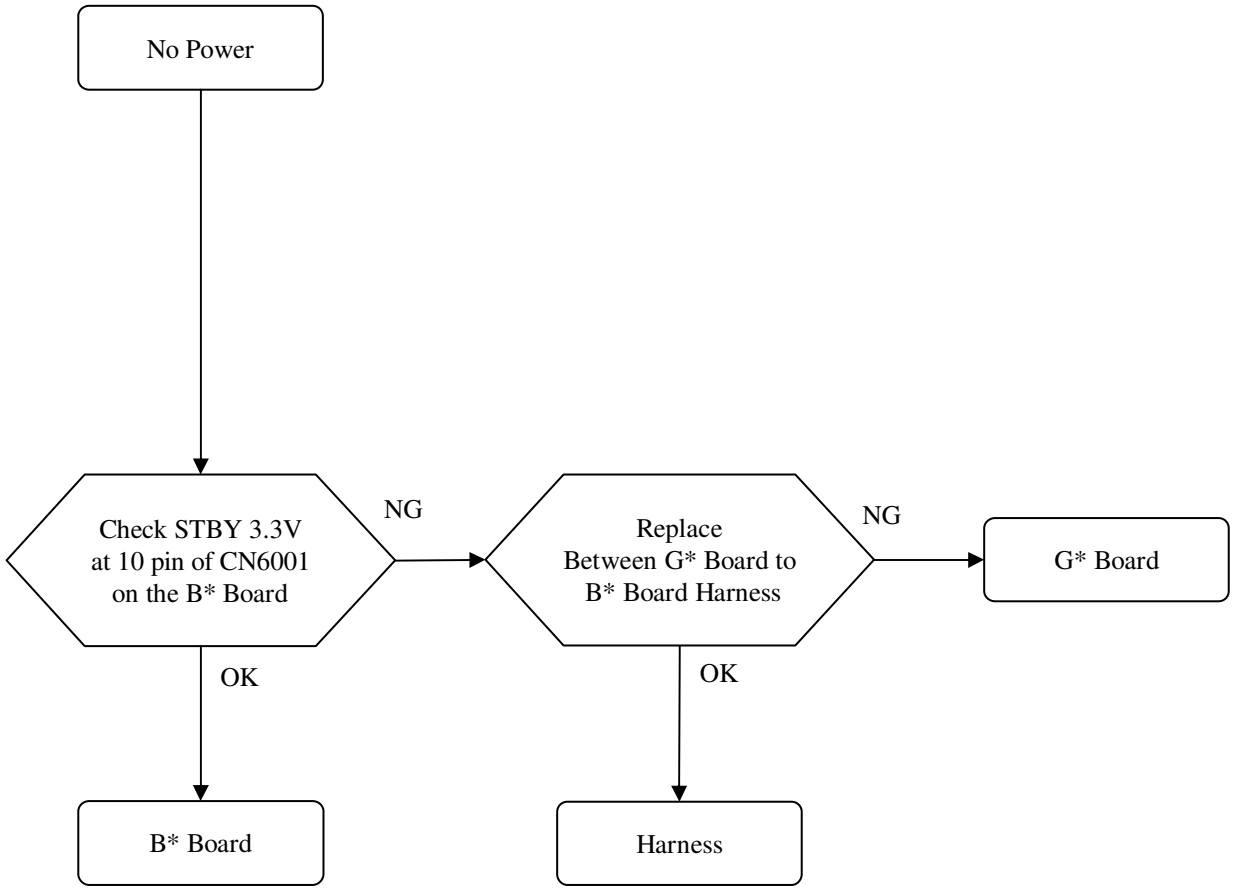
● : doubtful part

▲ : Few possibility

3-2. FLOW CHART

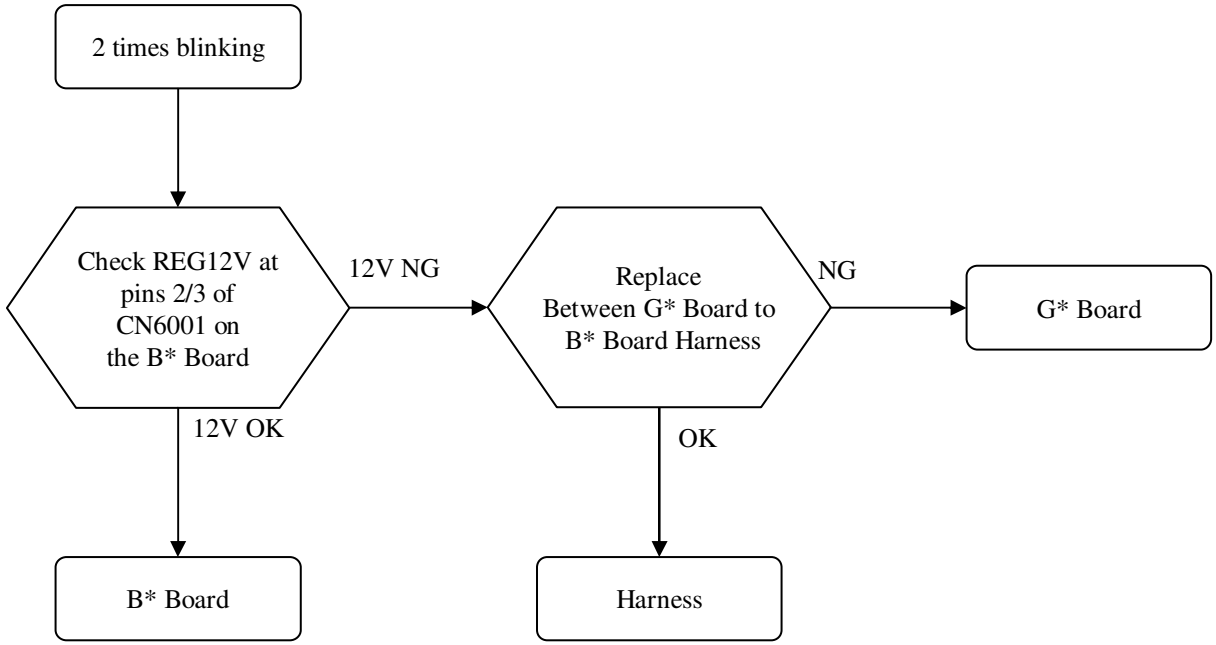


3-3. NO POWER

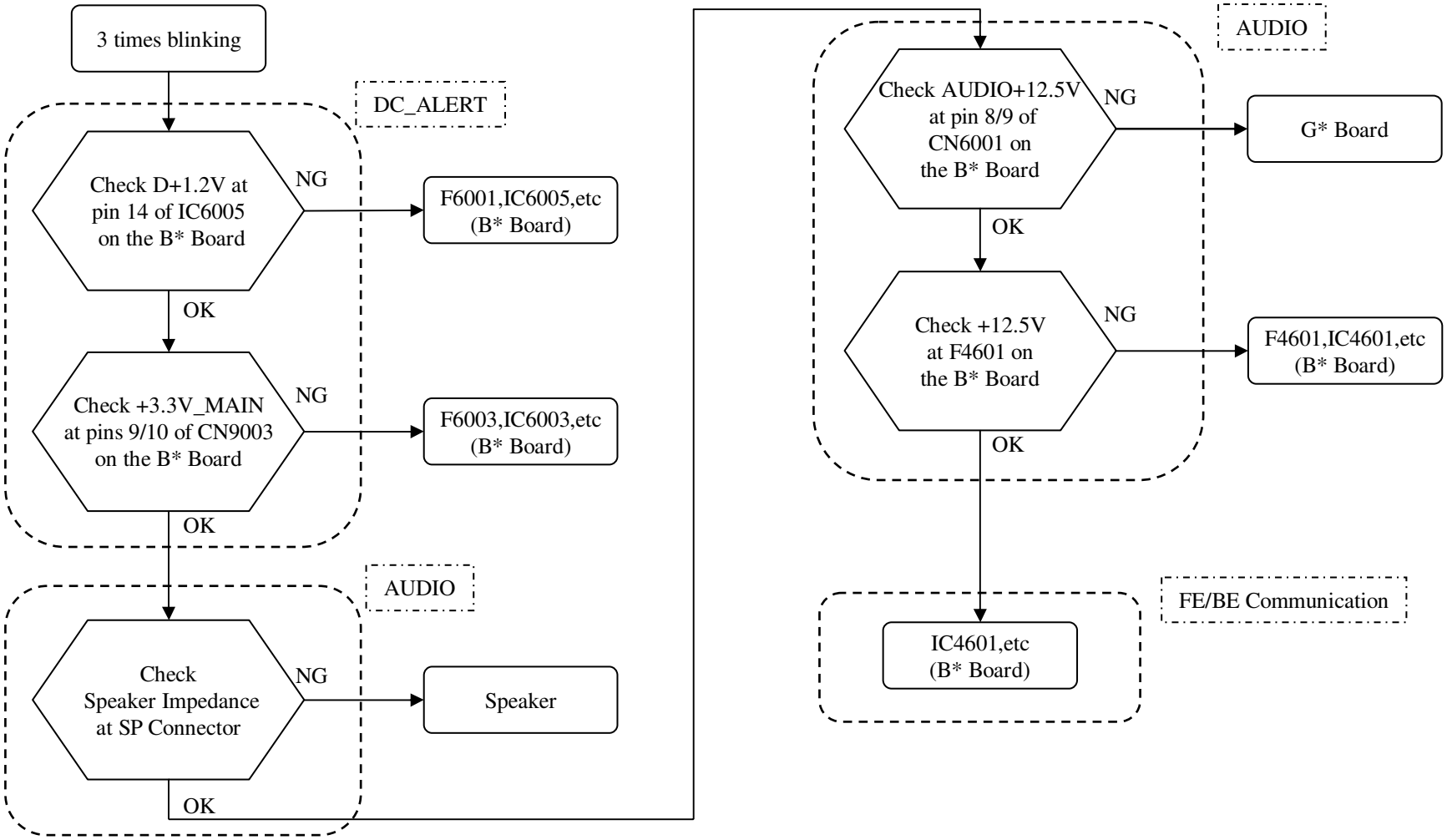

No Power
Check STBY 3.3V
at 10 pin of CN6001
on the B* Board
NG
Replace
Between G* Board to
B* Board Harness
NG
G* Board
OK
OK
B* Board
Harness

3-4. STANDBY LED BLINK

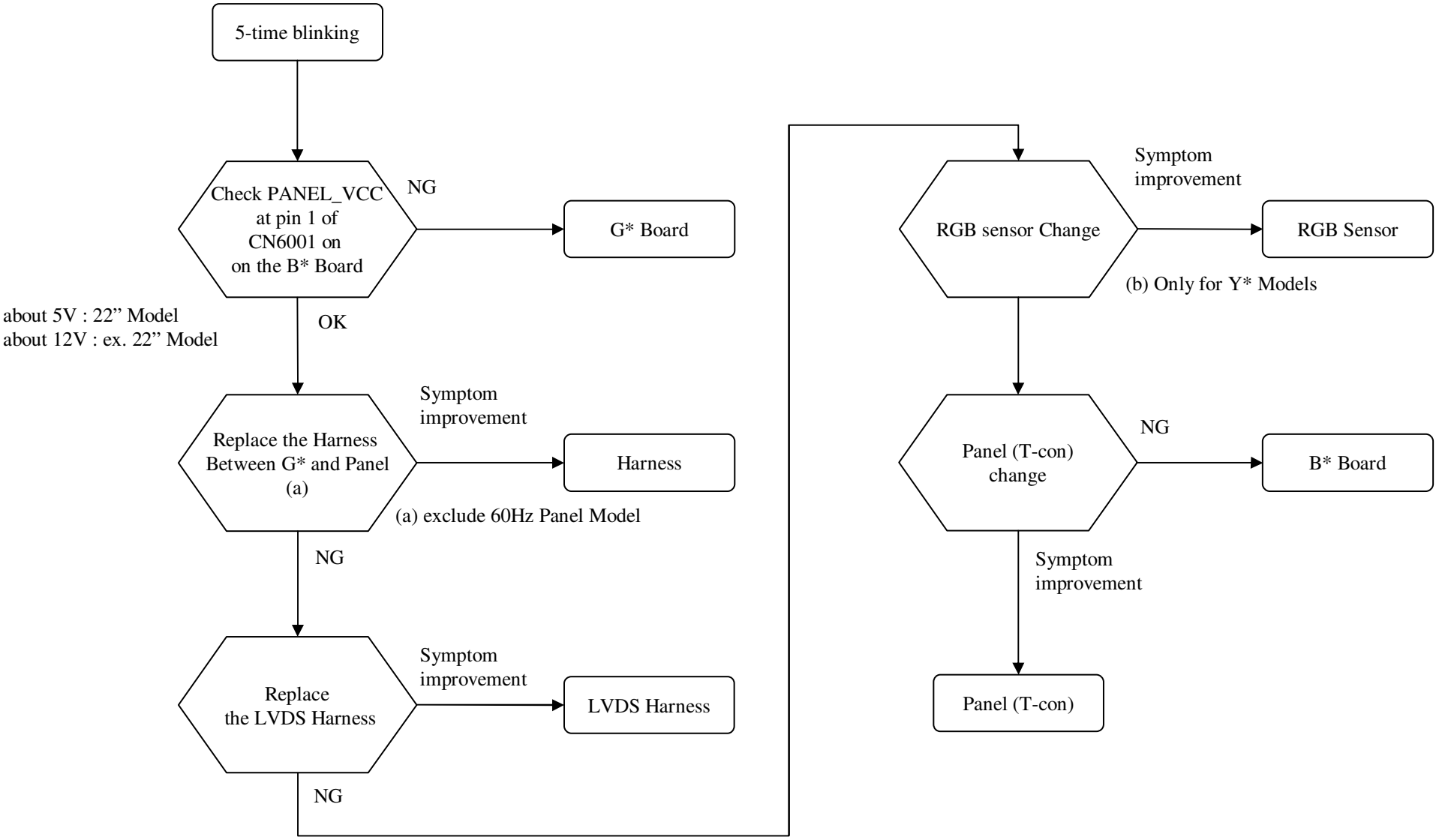
1) 2 times blinking (Main Power Error)



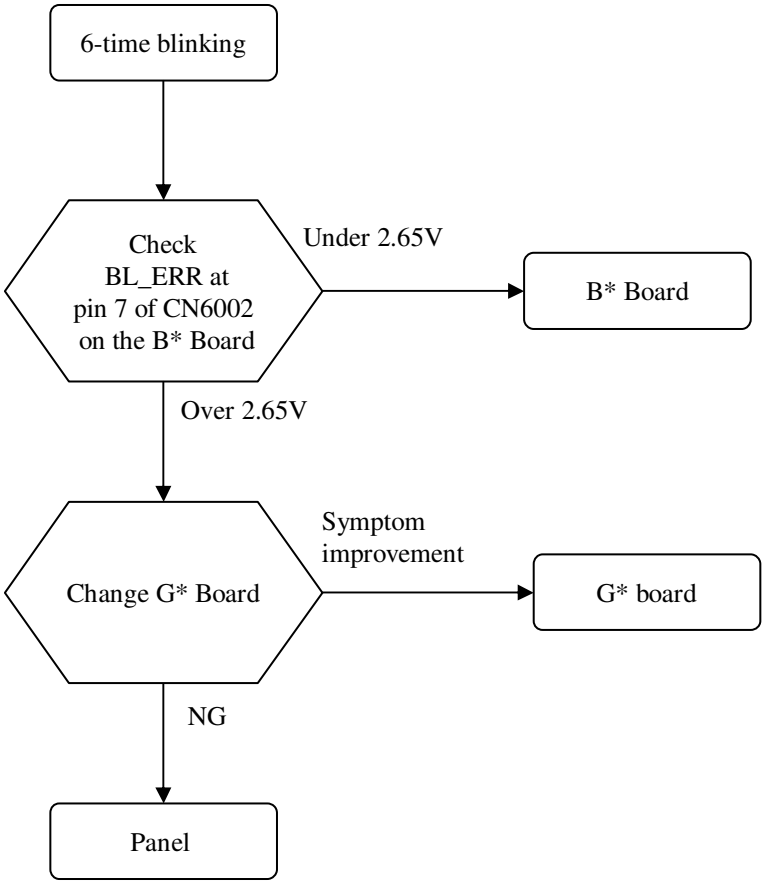
2) 3 times blinking (DC Alert, Audio Error and Communication Error)



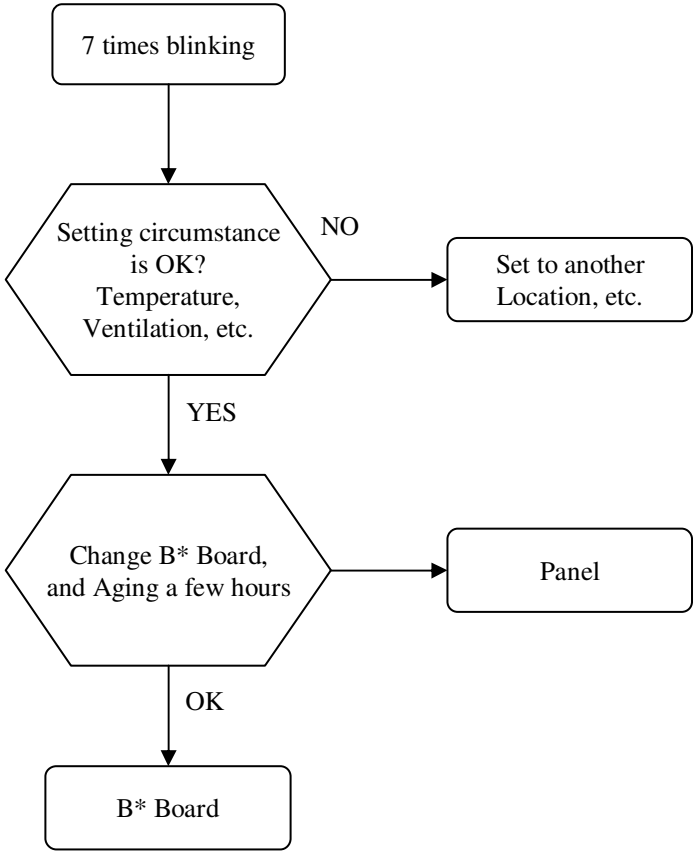
3) 5 times blinking (T-con Error)



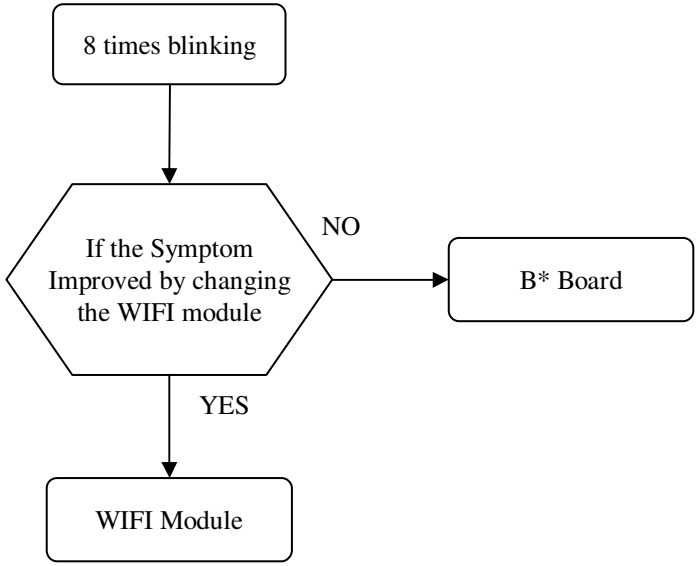
4) 6 times blinking (Backlight Error)



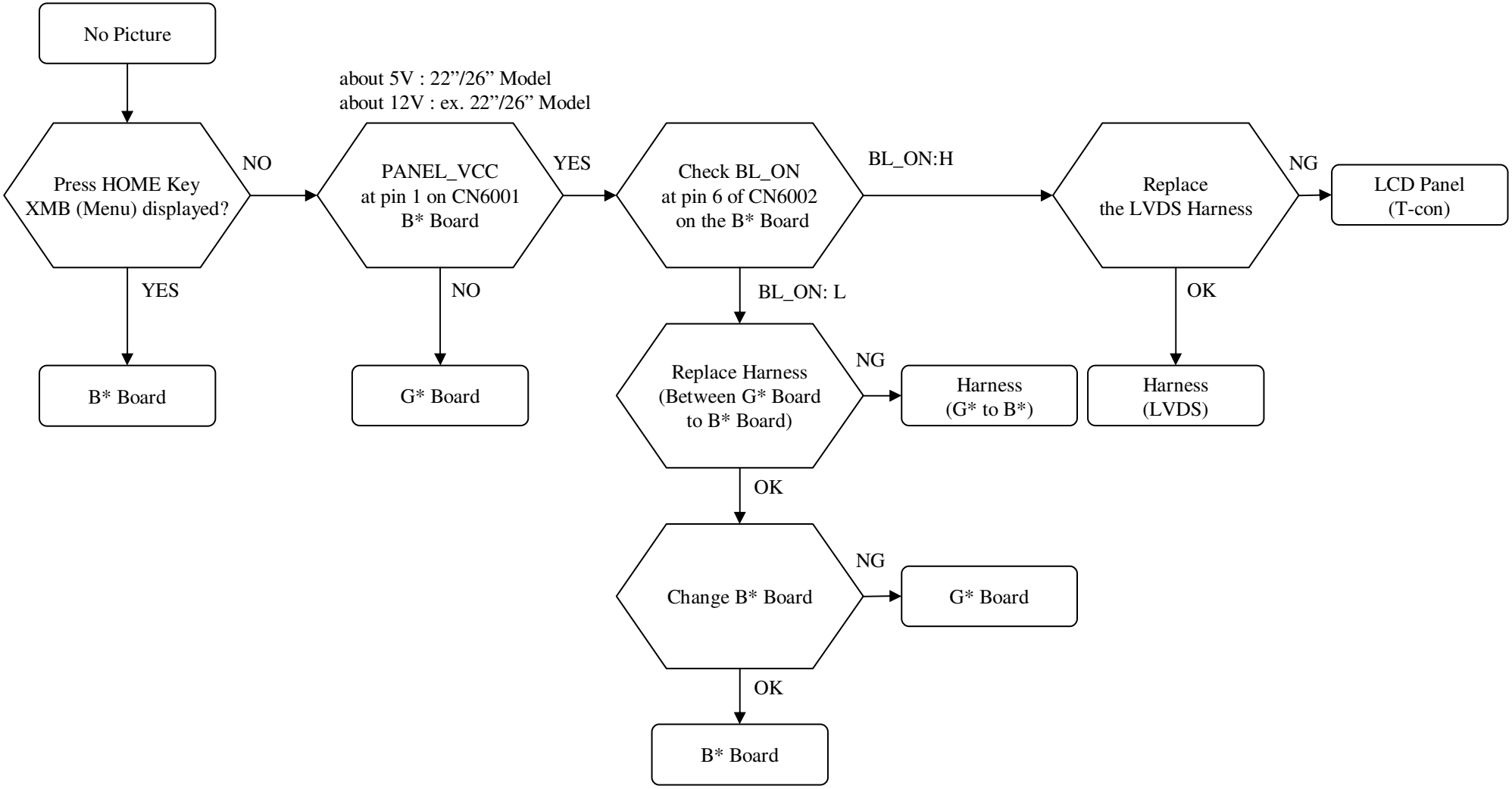
5) 7 times blinking (Temperature Error)



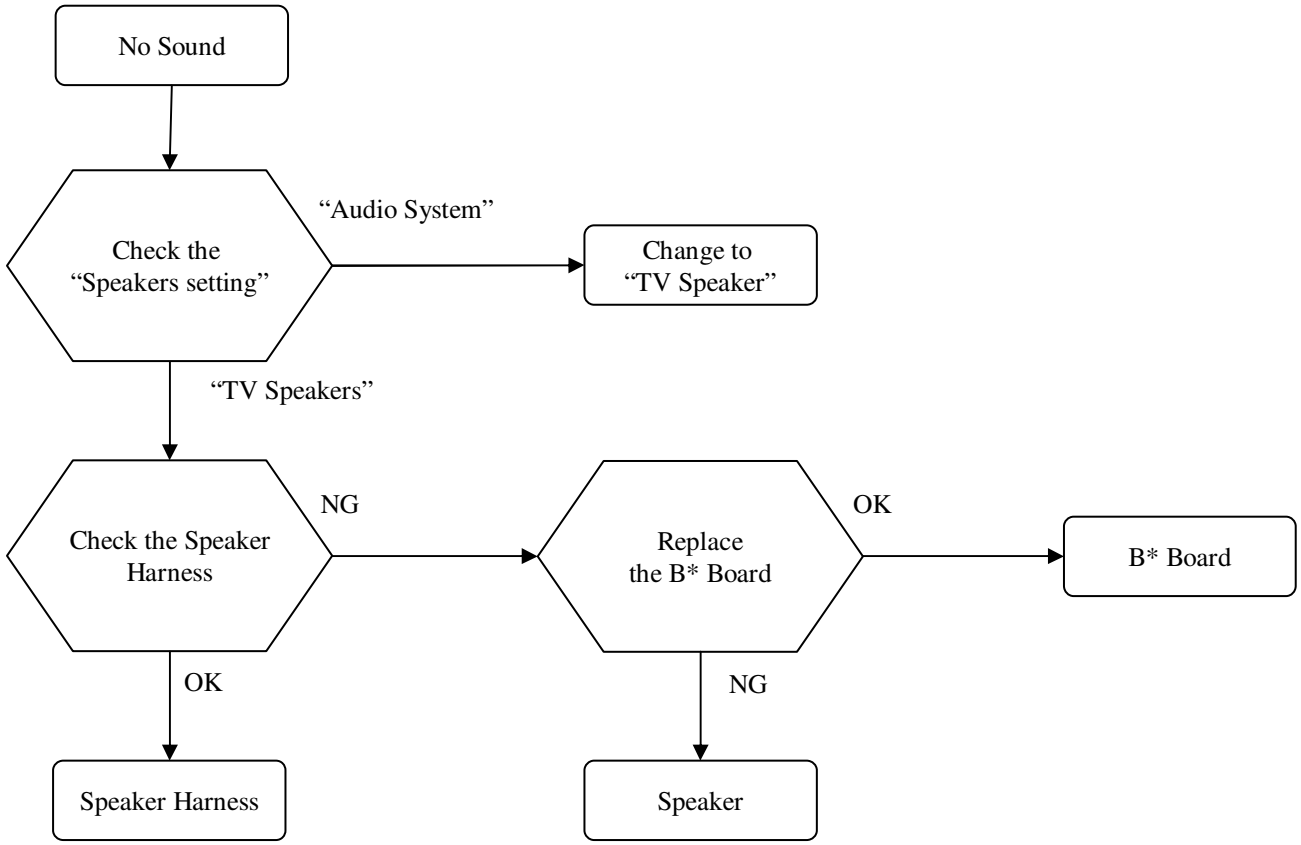
6) 8 times blinking (Software Error)



3-5. NO PICTURE

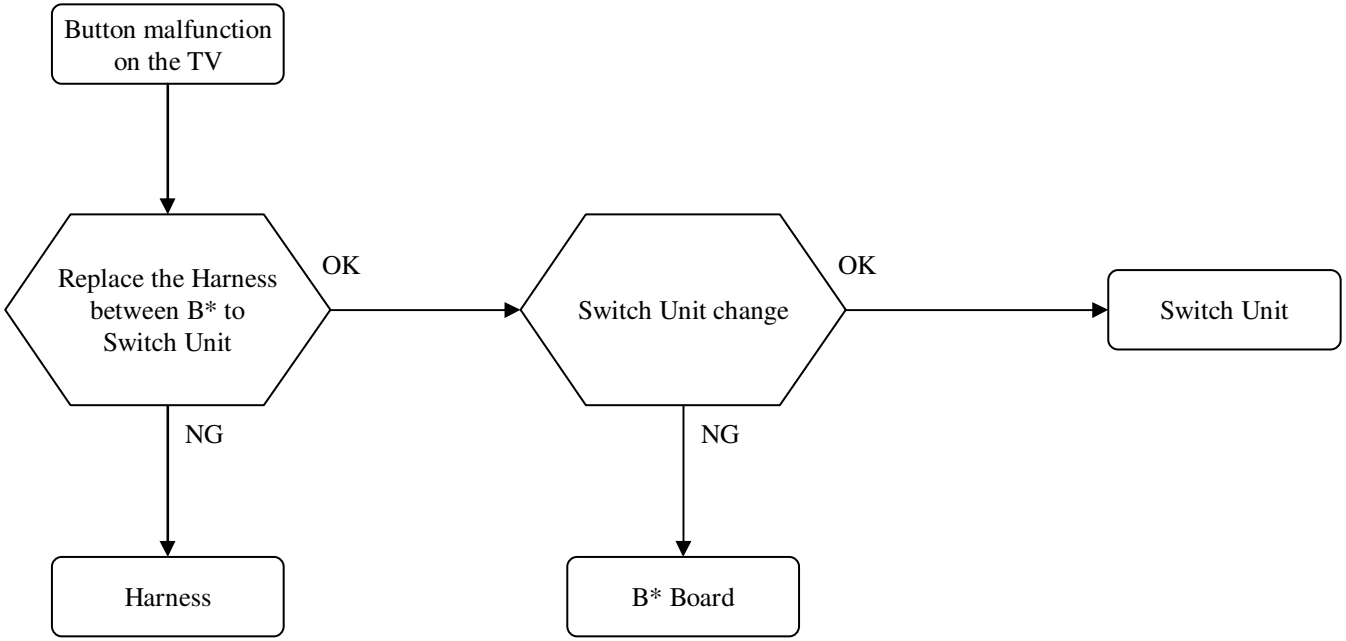


3-6. NO SOUND

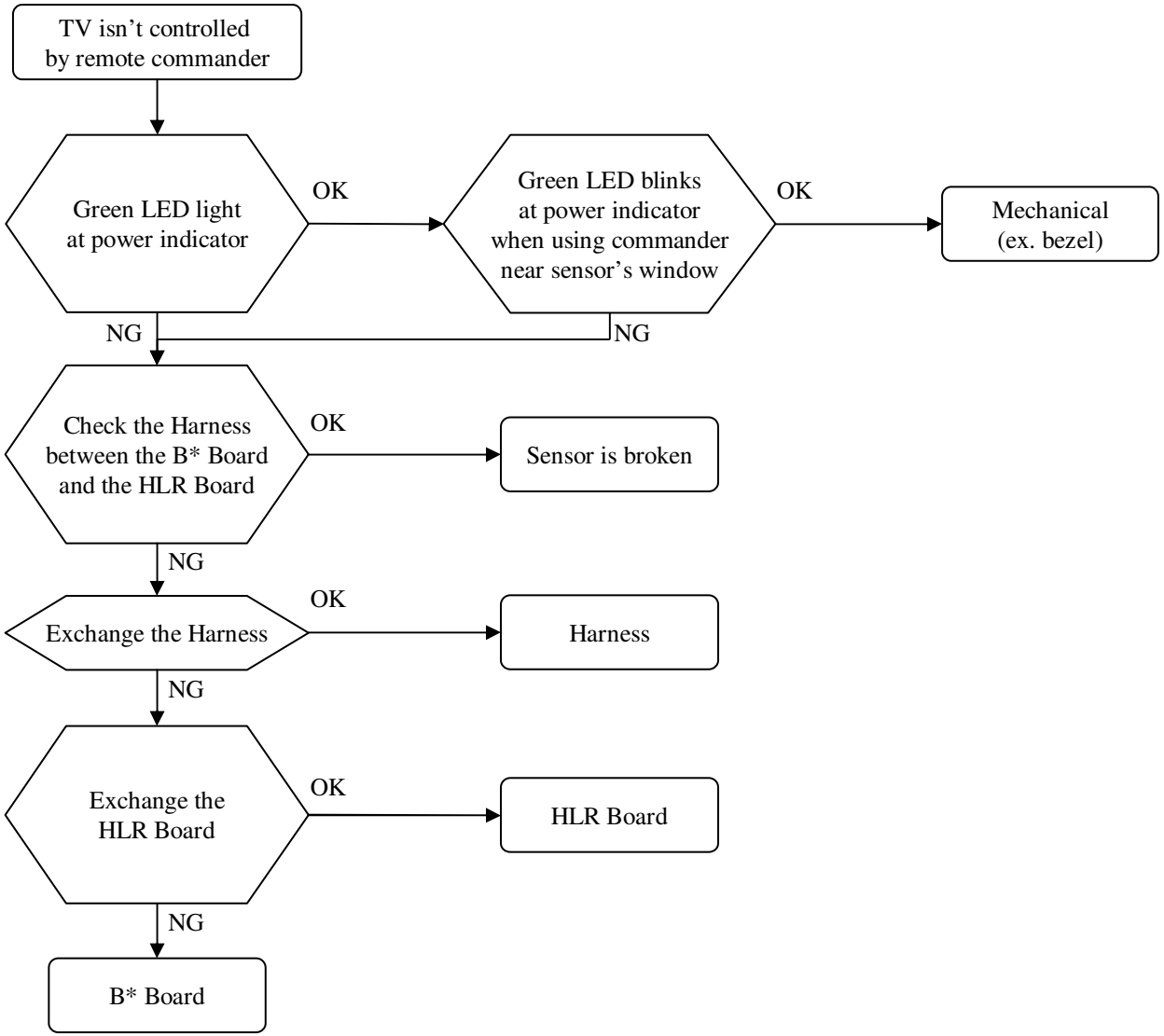

No Sound
Check the
“Speakers setting”
“Audio System”
Change to
“TV Speaker”
“TV Speakers”
Check the Speaker
Harness
NG
Replace
the B* Board
OK
B* Board
OK
NG
Speaker Harness
Speaker

3-7. TV COMMANDER BUTTONS MALFUNCTION

1) TV button malfunction

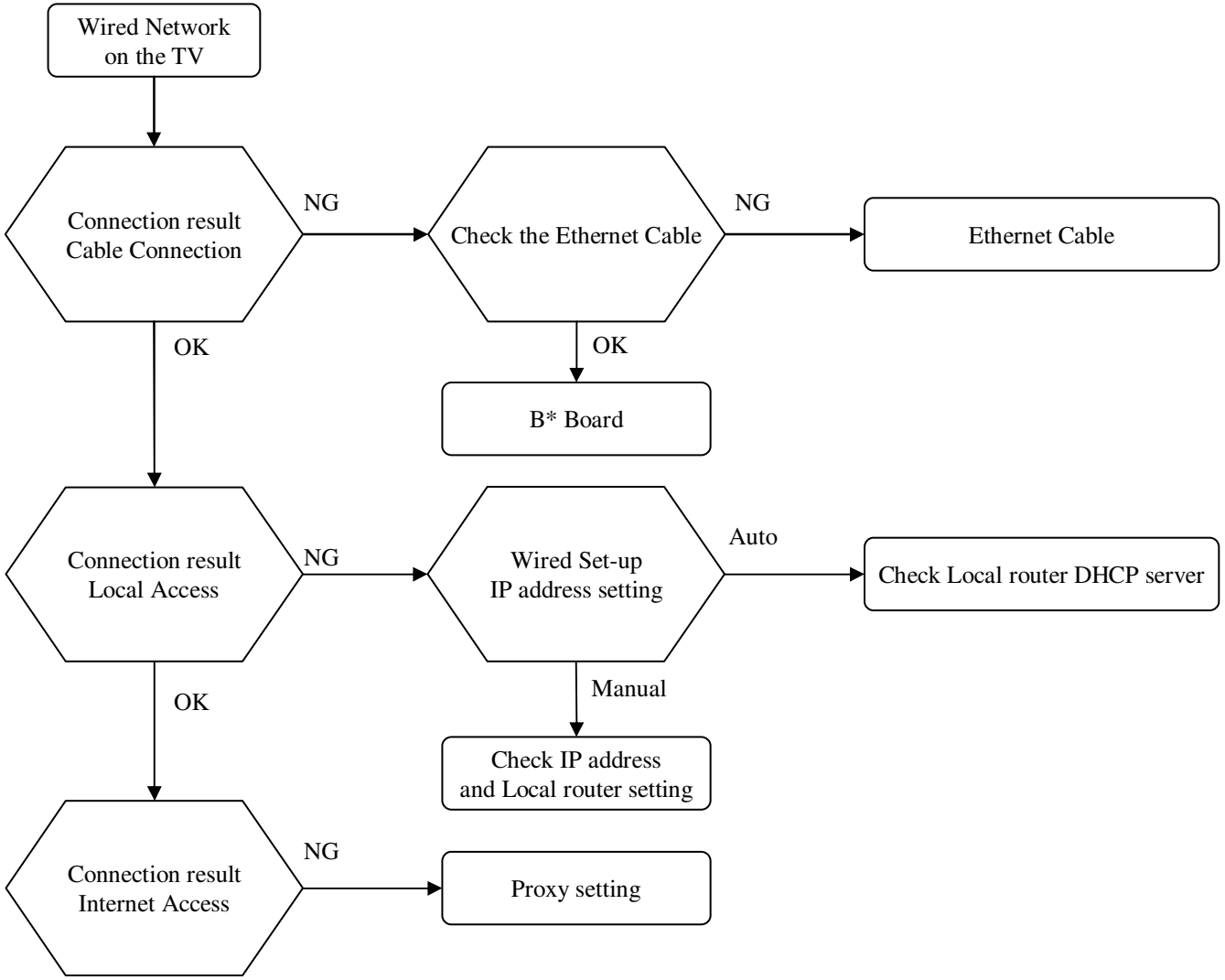


2) IR remote commander malfunction

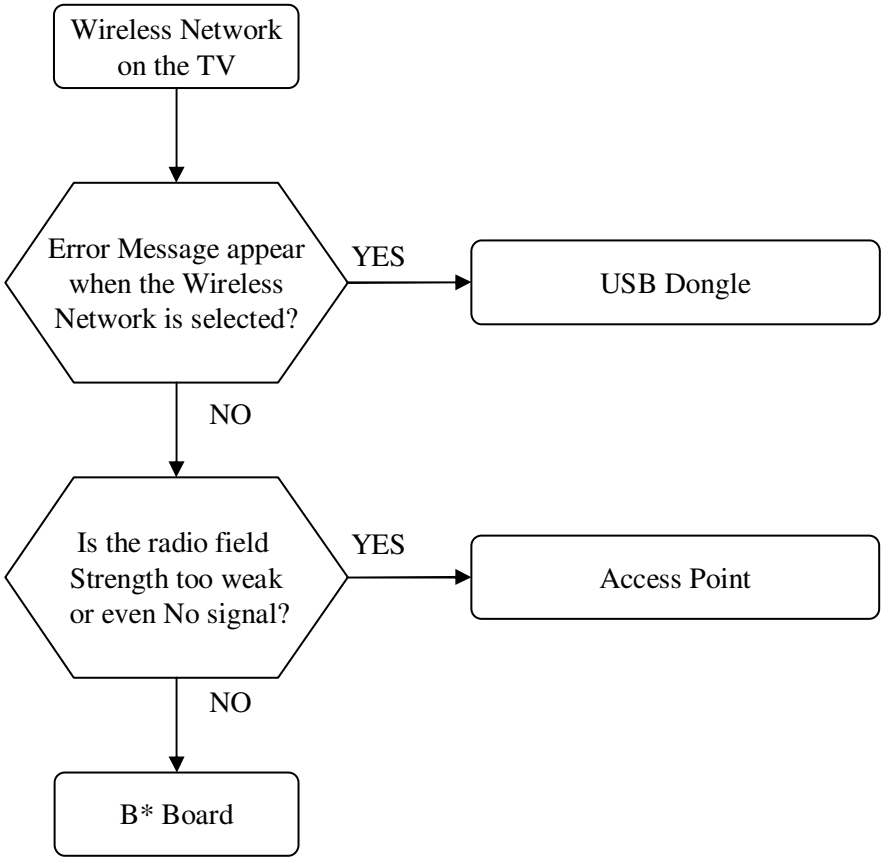


3-8. NETWORK MALFUNCTION

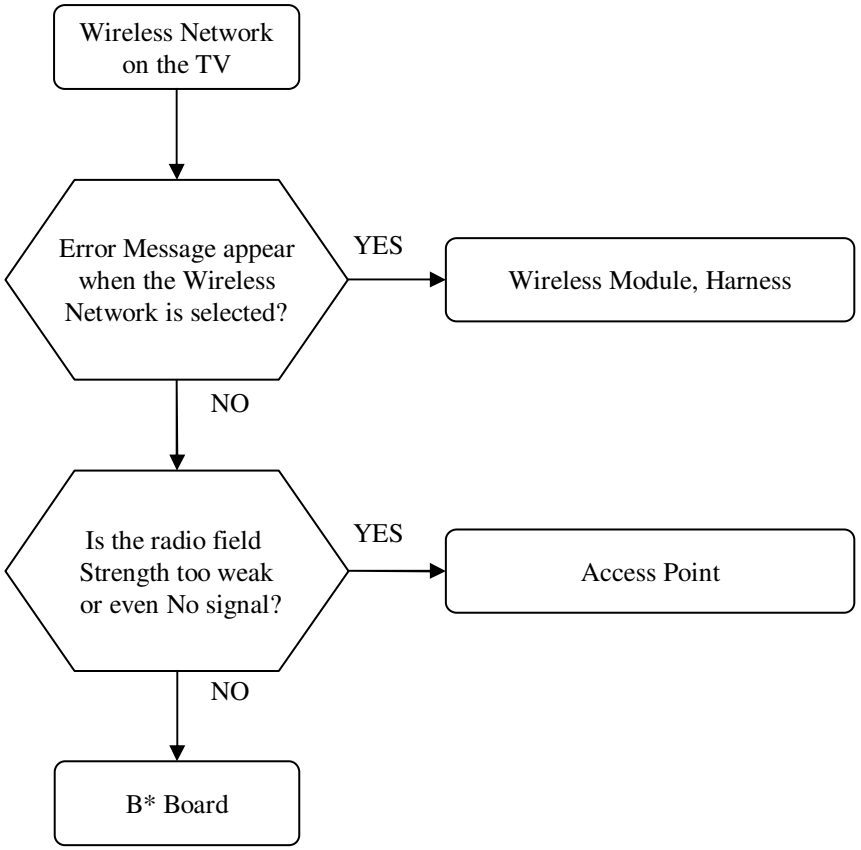
1) Wired Network malfunction



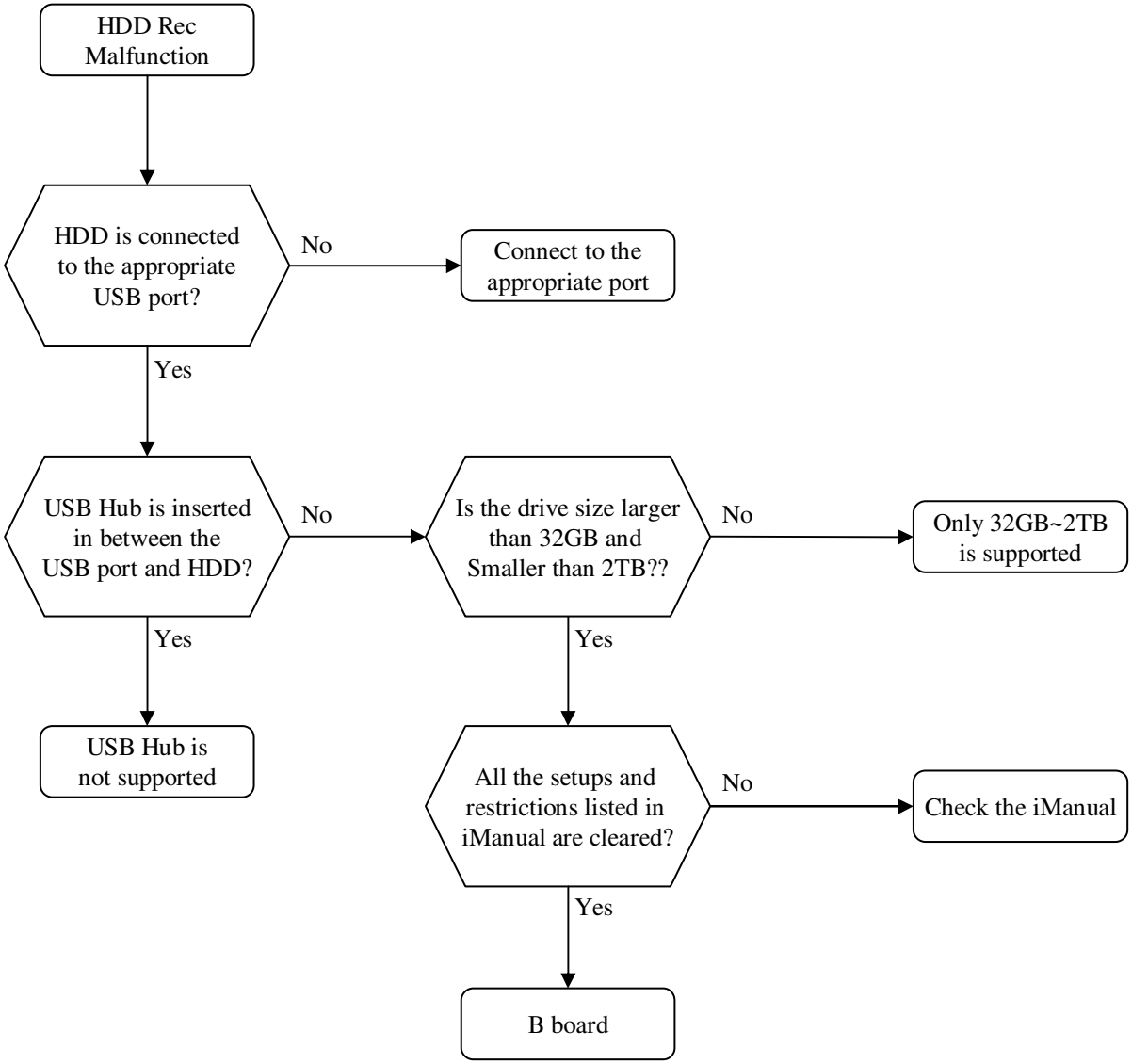
2) USB Wireless Network malfunction



3) Internal Wireless Network malfunction



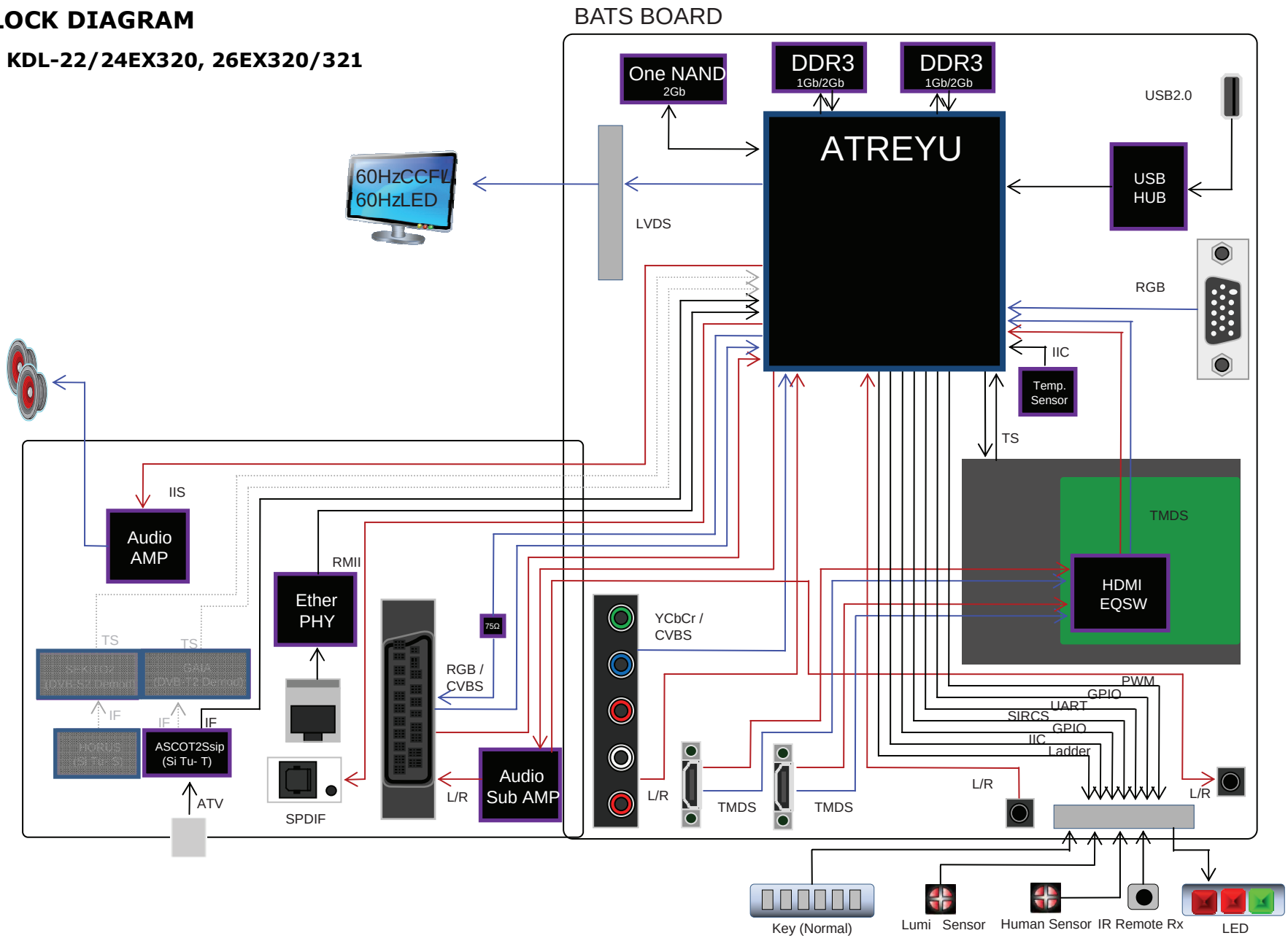
3-9. HDD-Rec MALFUNCTION



SEC 4. DIAGRAMS

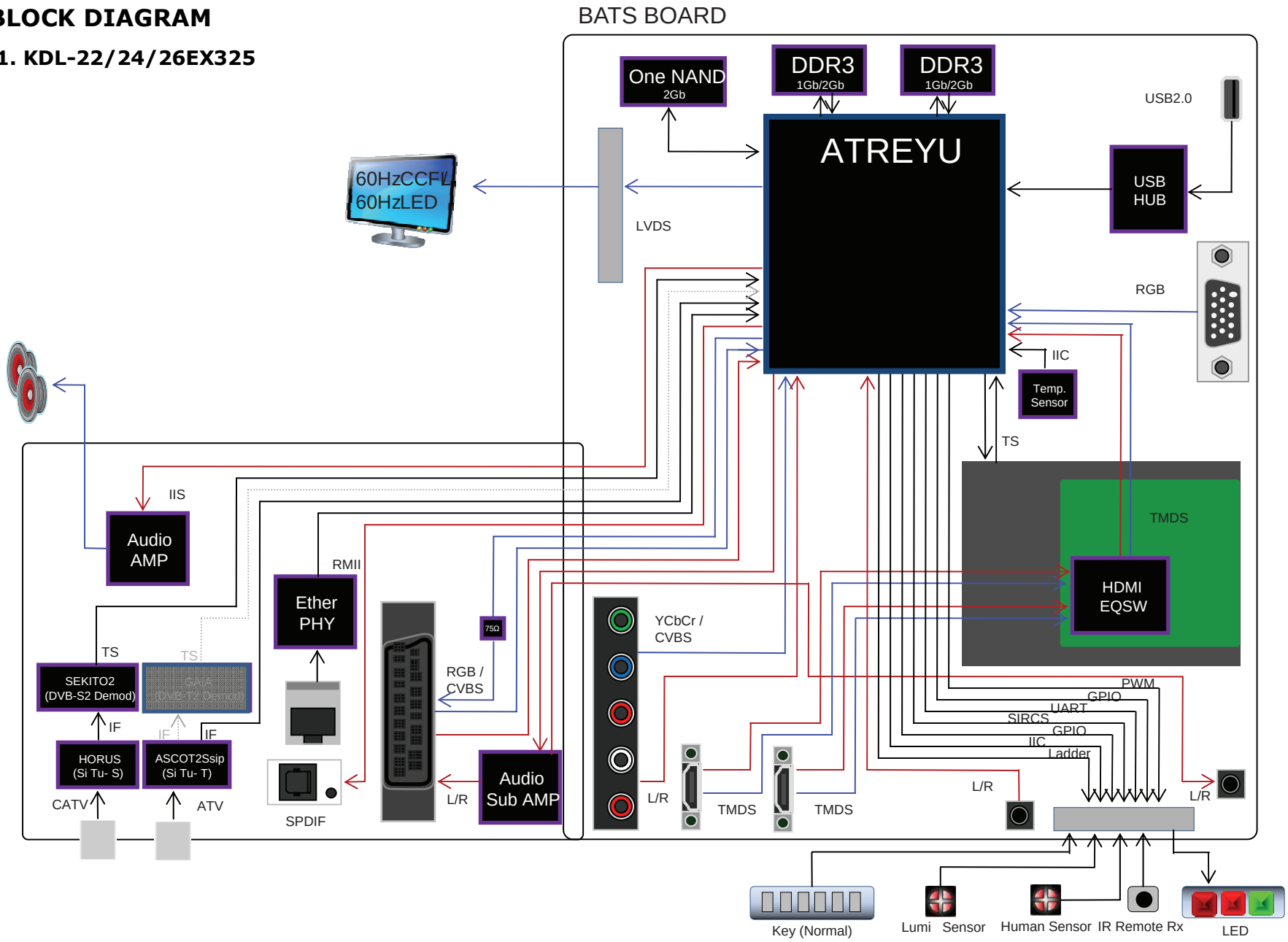
4-1. BLOCK DIAGRAM

4-1-1. KDL-22/24EX320, 26EX320/321



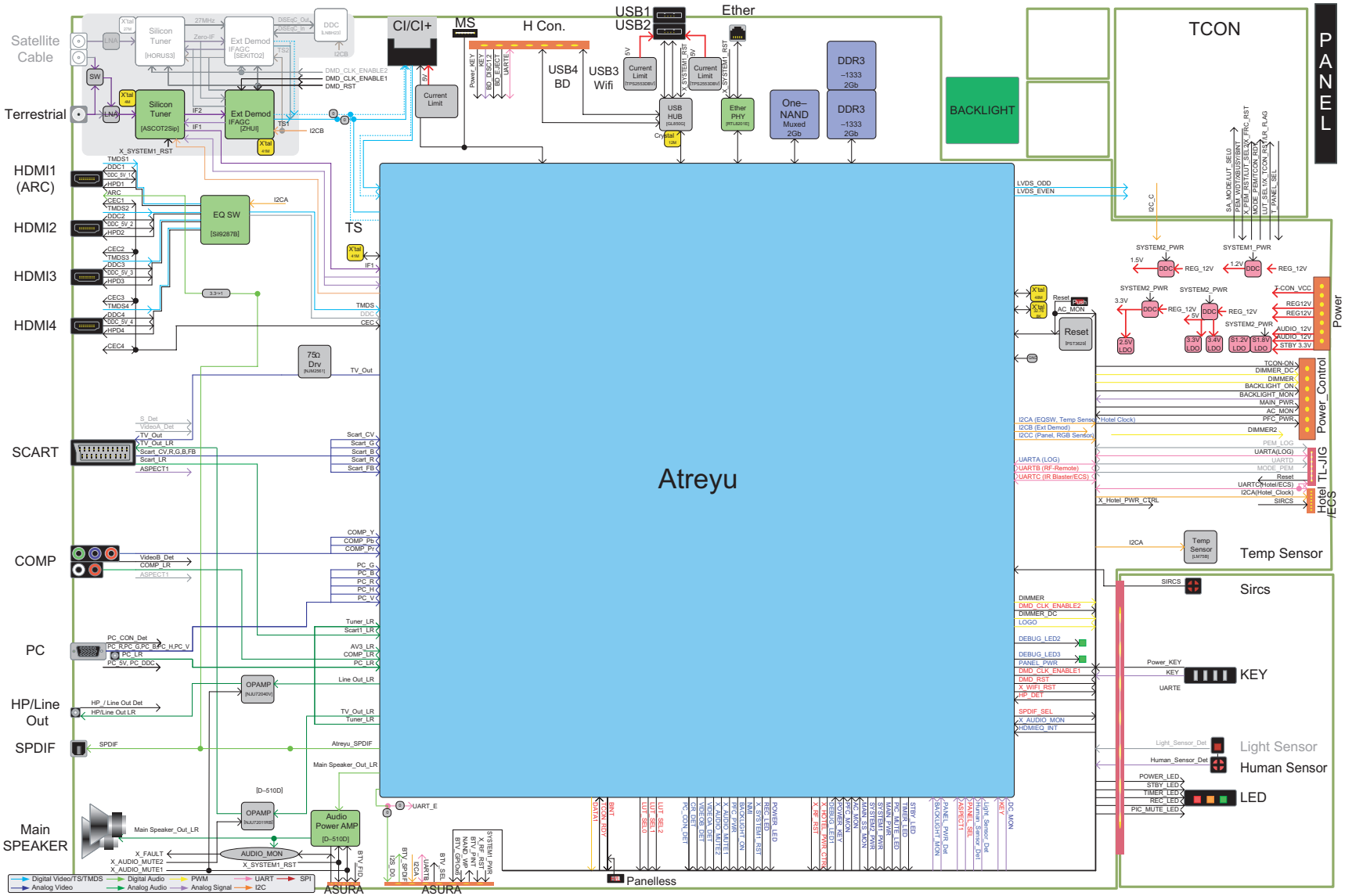
4-1. BLOCK DIAGRAM

4-1-1. KDL-22/24/26EX325



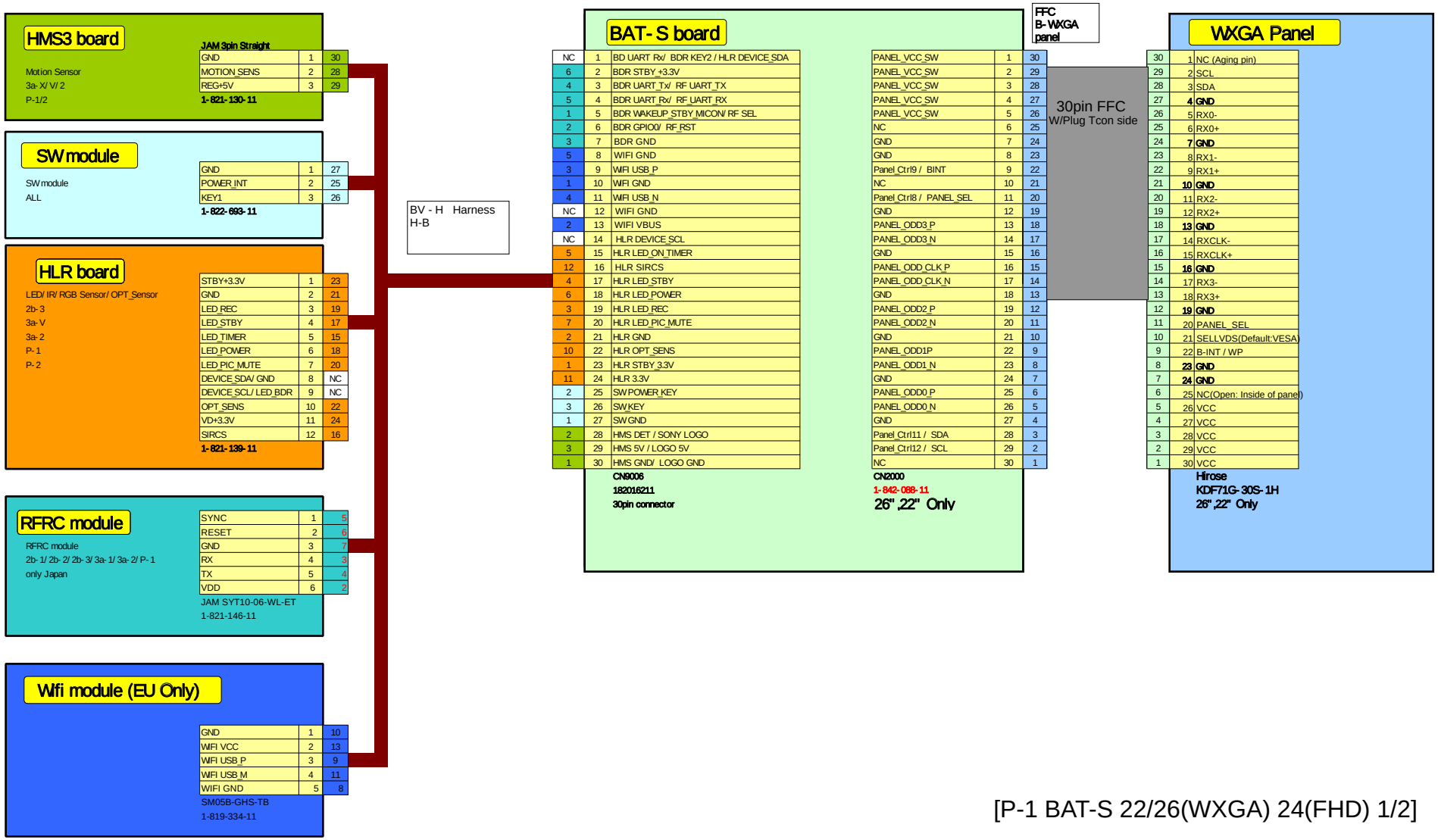
4-1. BLOCK DIAGRAM

4-1-2. KDL-32/40/46EX425,520,521,523,524,525



4-2. CONNECTOR DIAGRAM

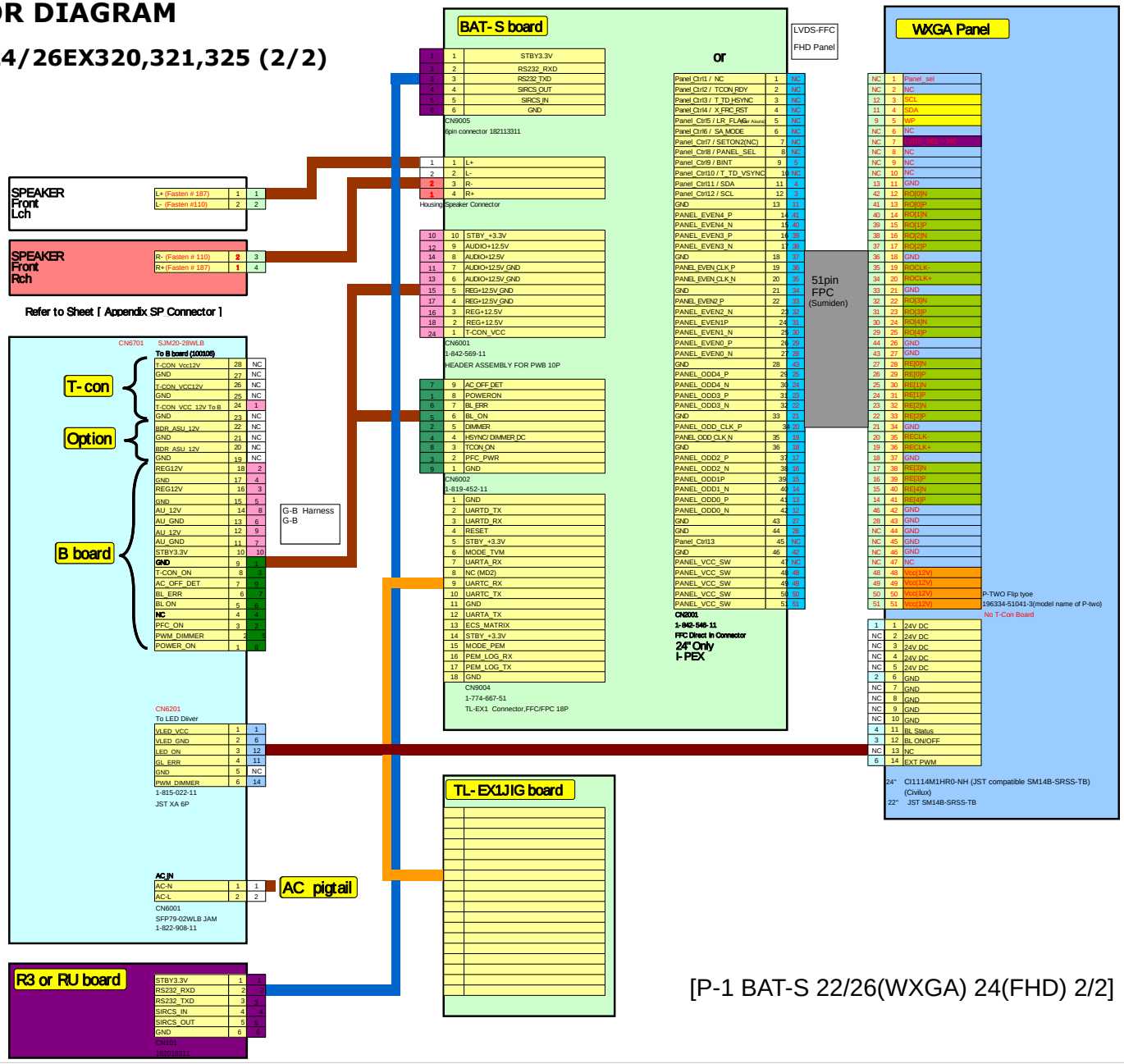
4-2-1. KDL-22/24/26EX320,321,325 (1/2)



[P-1 BAT-S 22/26(WXGA) 24(FHD) 1/2]

4-2. CONNECTOR DIAGRAM

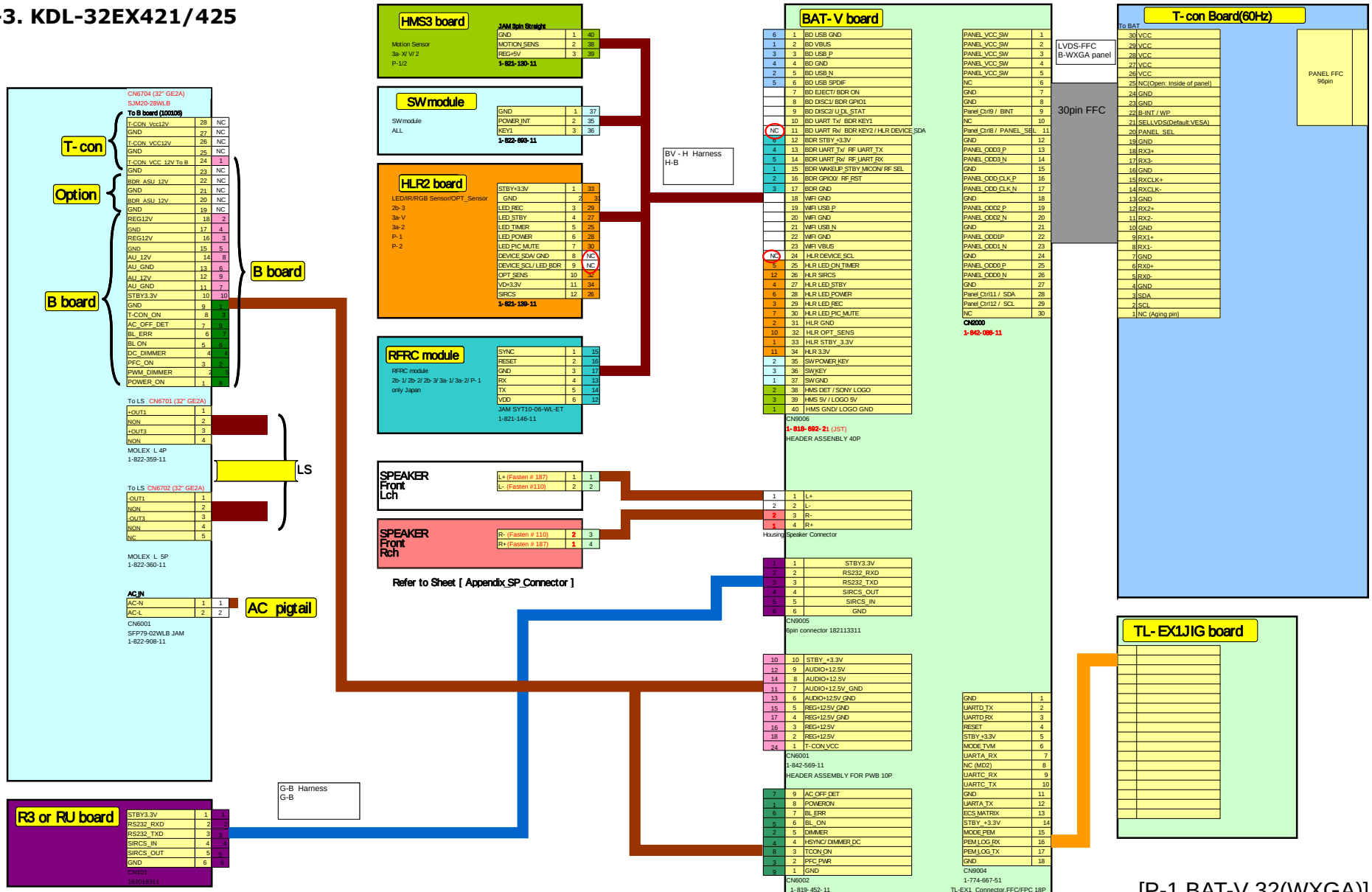
4-2-2. KDL-22/24/26EX320,321,325 (2/2)



[P-1 BAT-S 22/26(WXGA) 24(FHD) 2/2]

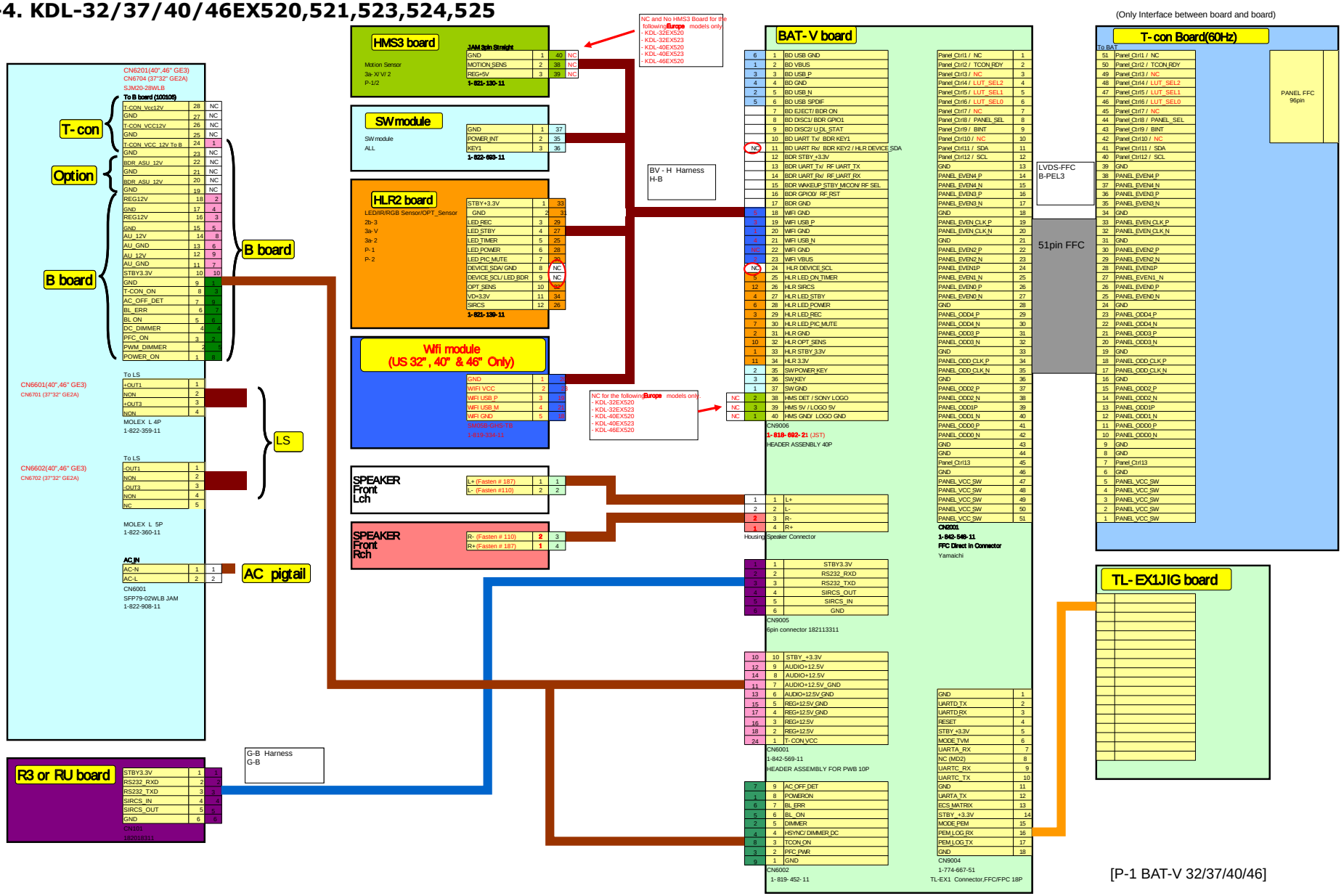
4-2. CONNECTOR DIAGRAM

4-2-3. KDL-32EX421/425



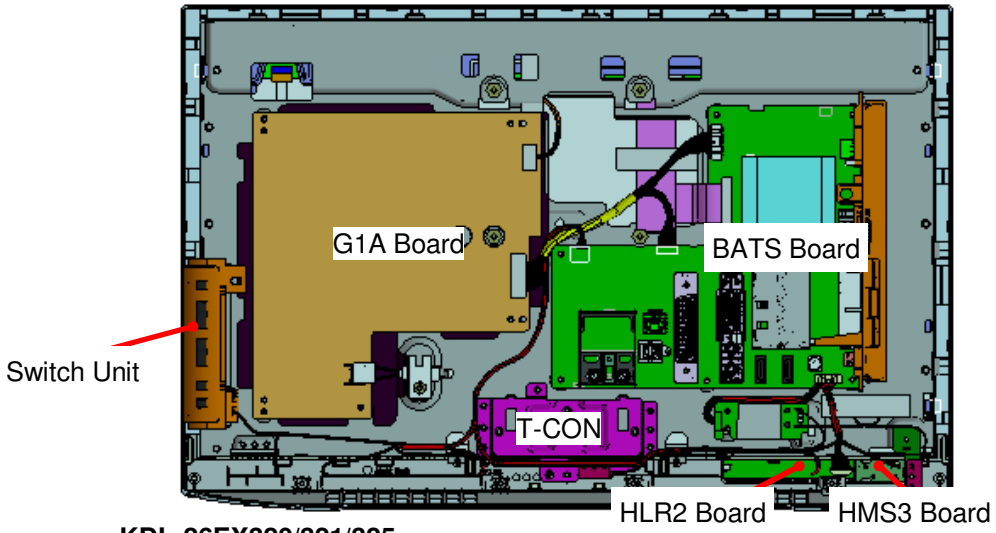
4-2. CONNECTOR DIAGRAM

4-2-4. KDL-32/37/40/46EX520,521,523,524,525

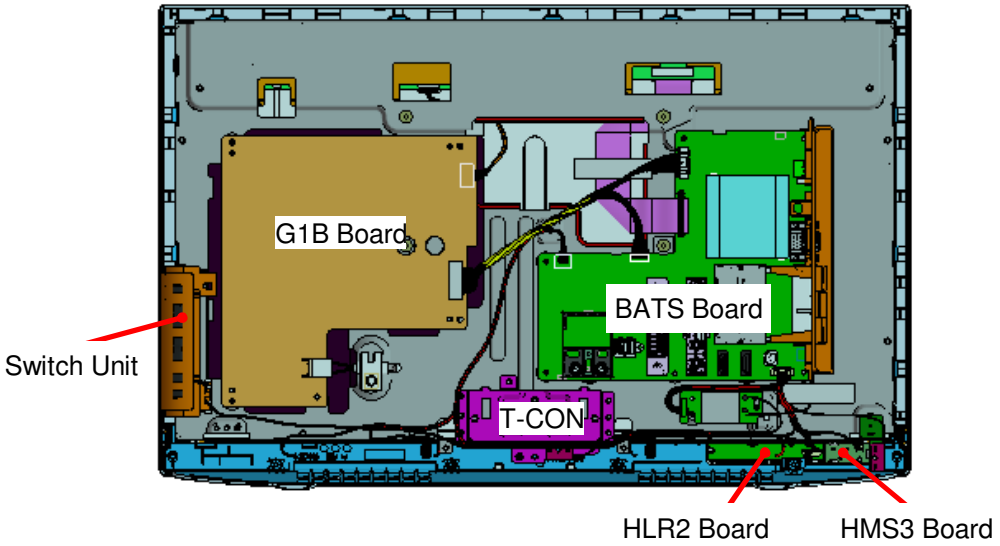


4-3. CIRCUIT BOARDS LOCATION

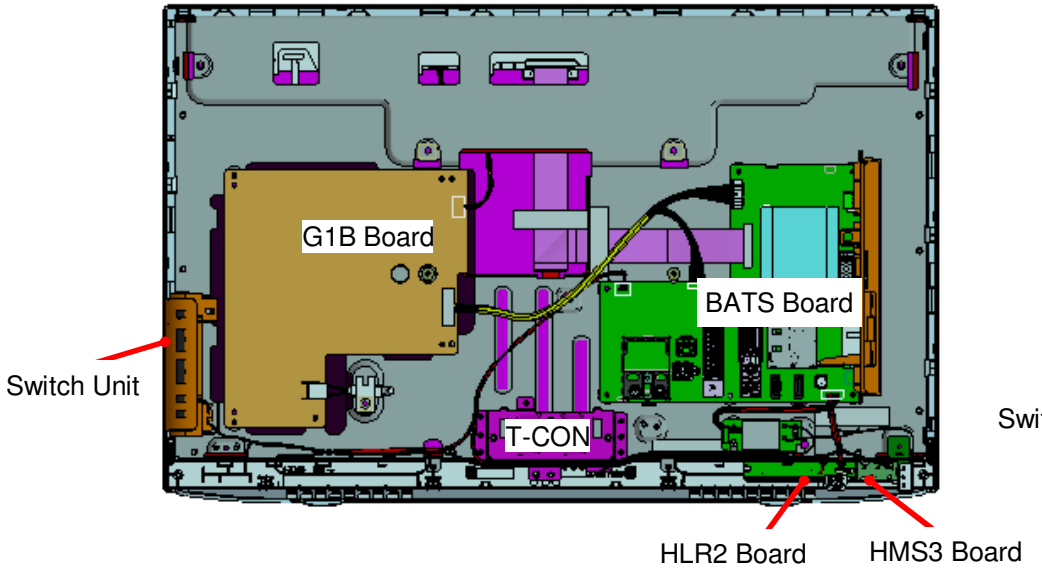
KDL-22EX320/325



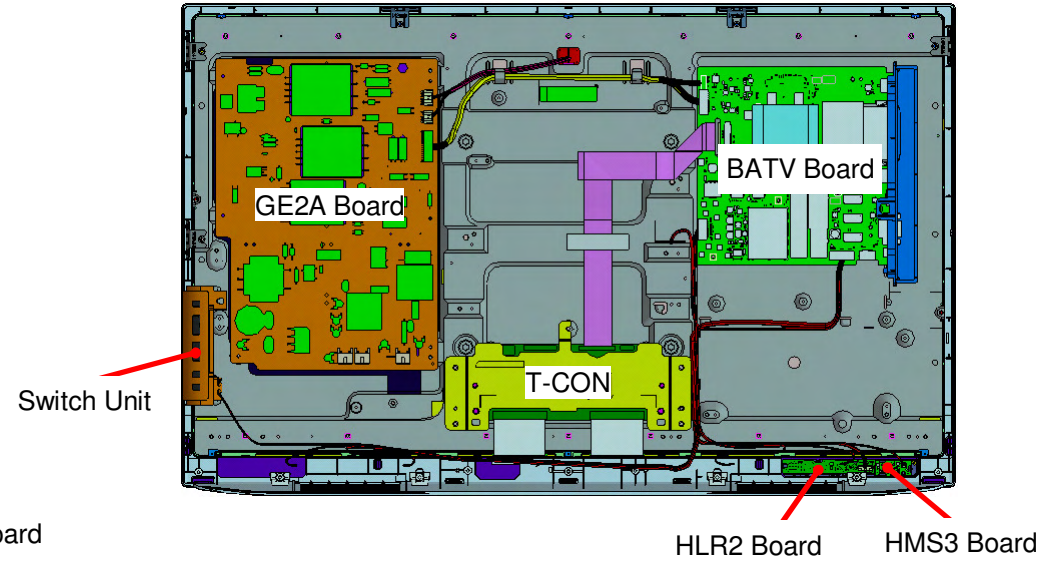
KDL-24EX320/325



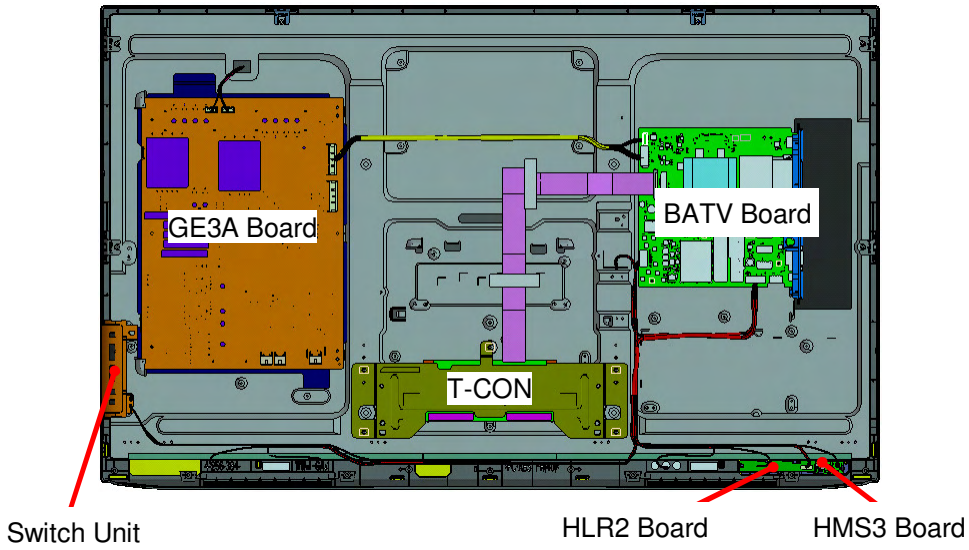
KDL-26EX320/321/325



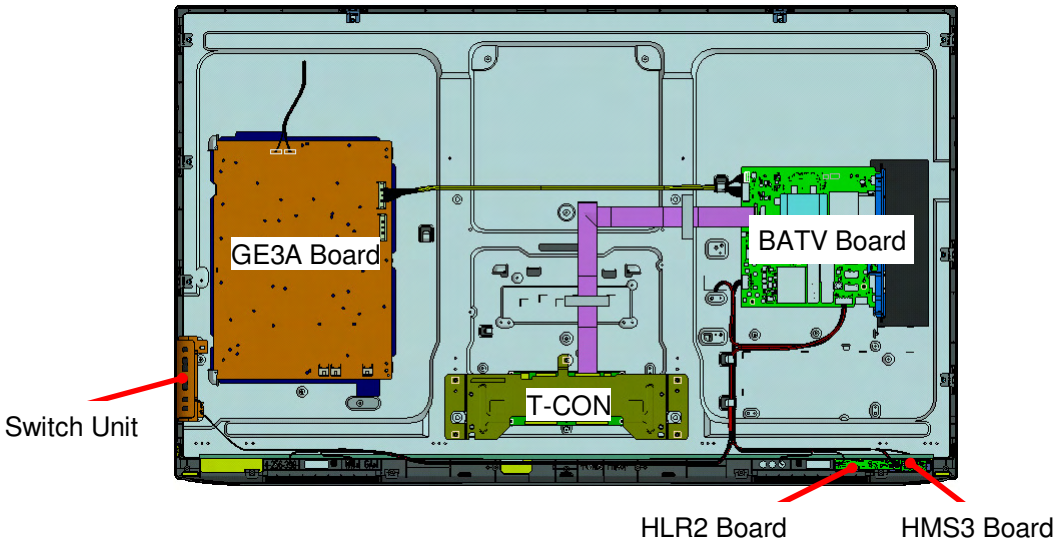
KDL-32EX421/425/520/521/523/524/525



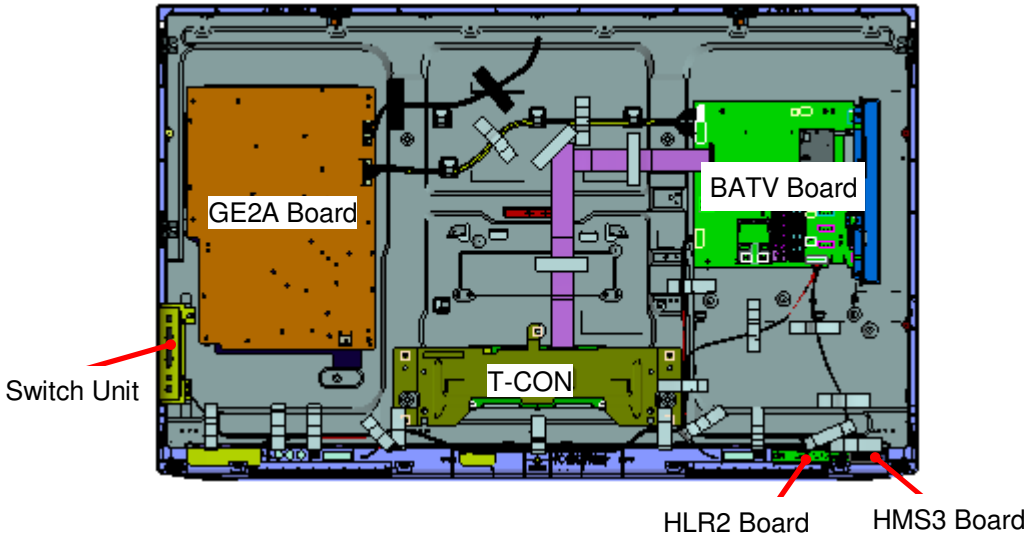
KDL-40EX520/521/523/524/525



KDL-46EX520/521/523/525



KDL-37EX521/524/525



END

English
11FP7100-1
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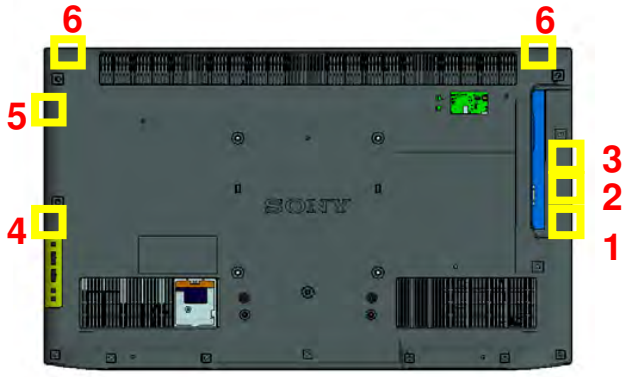
Sony UK
Service Promotions Dept.

9-883-492-05

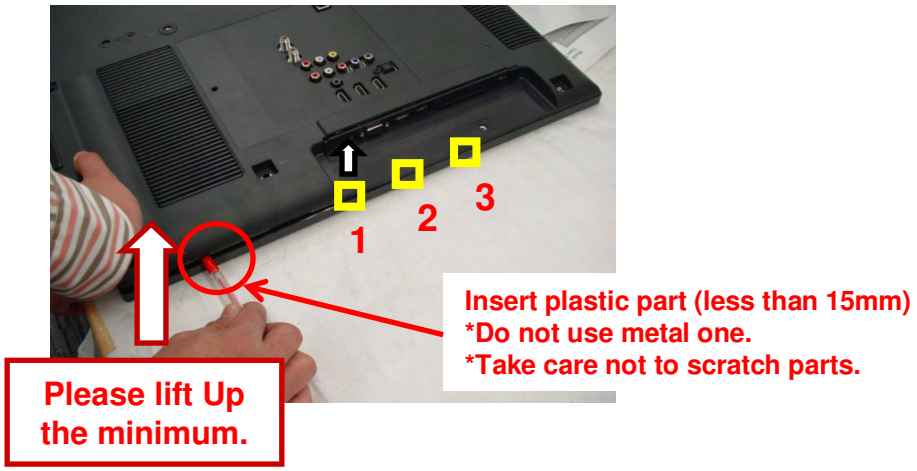
APPENDIX-1

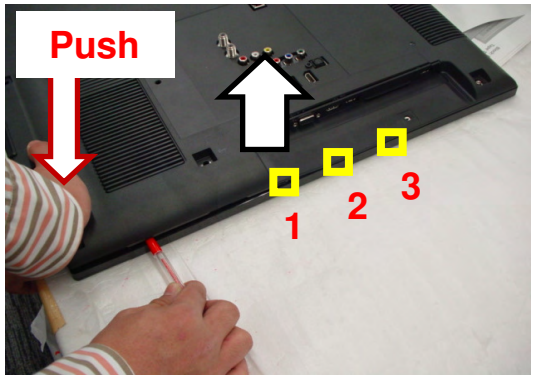
PROCEDURE TO REMOVAL OF REAR COVER (32)

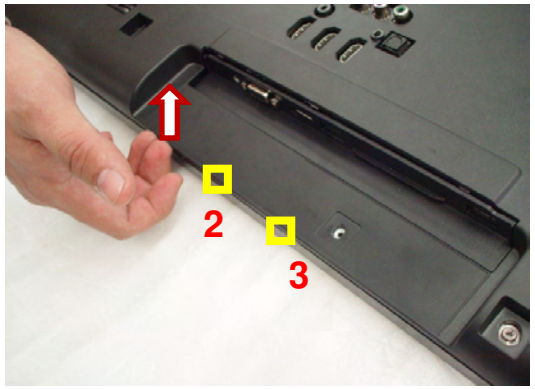
1. Remove all screws on Rear Cover and AC Cover.
2. Open Rear Cover in order as below.



Notice:







PROCEDURE TO REMOVAL OF REAR COVER (32)

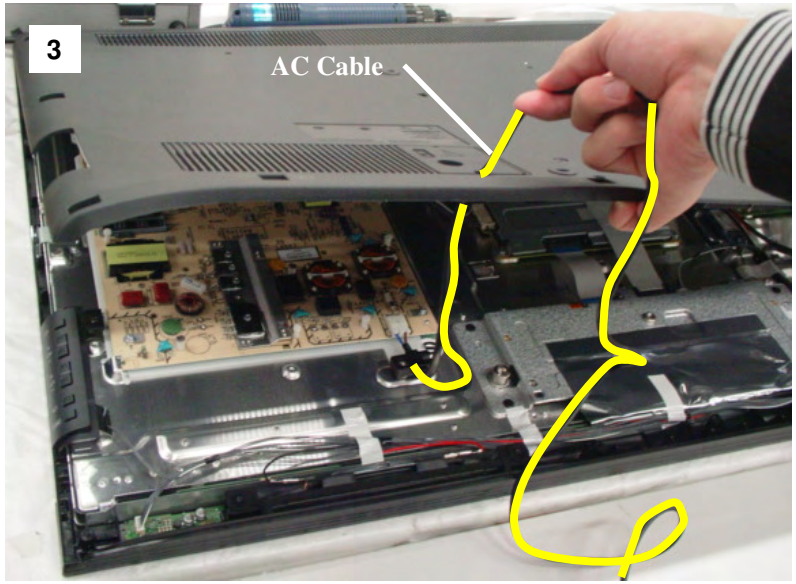
3. Open RC with “COVER AC” and AC cable are attached.

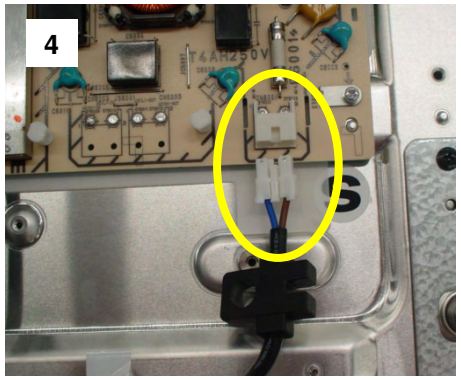
Note: Make sure to hold cable not to give any tension to connector and scratch damage for cable.

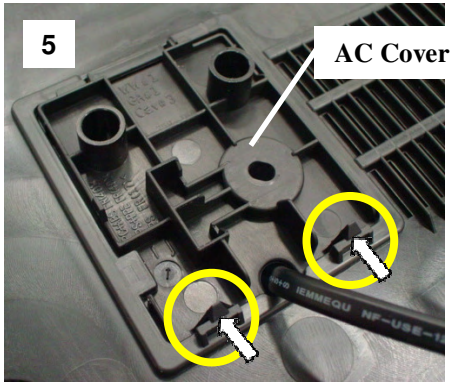
4. Release AC cable connector.

5. Release hook of “COVER AC” and remove it.

Note:
Confirm the hook broken before reuse COVER AC.
In case hook broken is occurred, replace with new one.

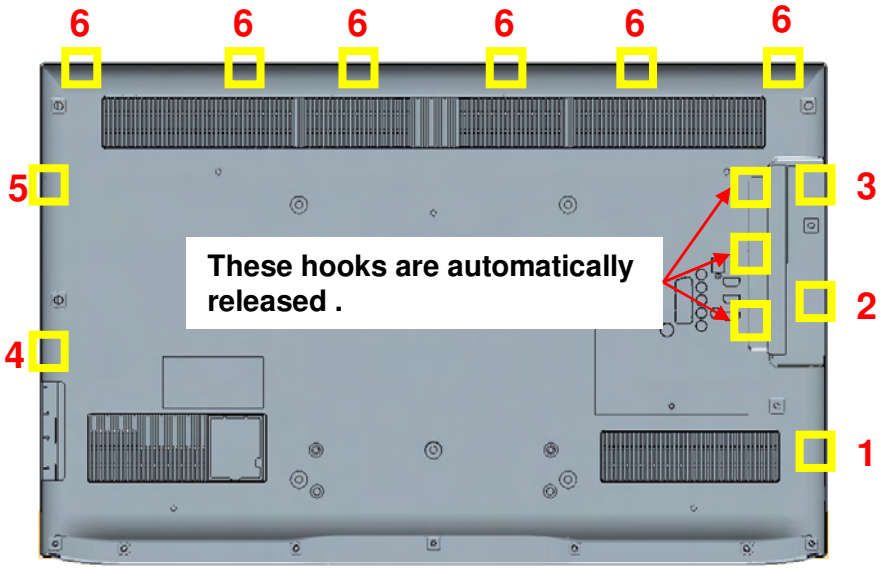




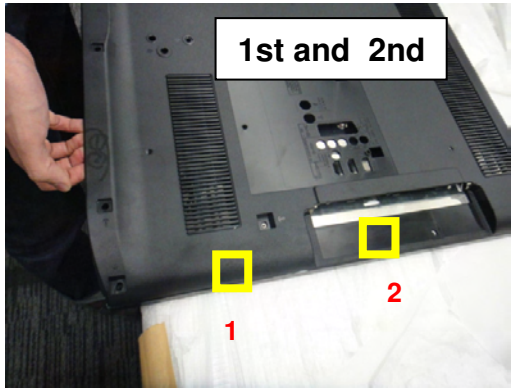


PROCEDURE TO REMOVAL OF REAR COVER (37)

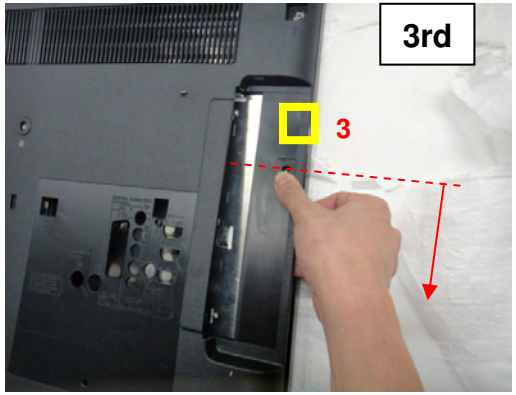
1. Remove all screws on Rear Cover and AC Cover.
2. Open Rear Cover in order as below.
   Note: Do not open quickly with 1~6 hooks are locked.



Notice:



Insert your hand in the place shown in picture.



Insert your hand below screw hole as shown in picture.
Open RC slowly with care.

PROCEDURE TO REMOVAL OF REAR COVER (37)

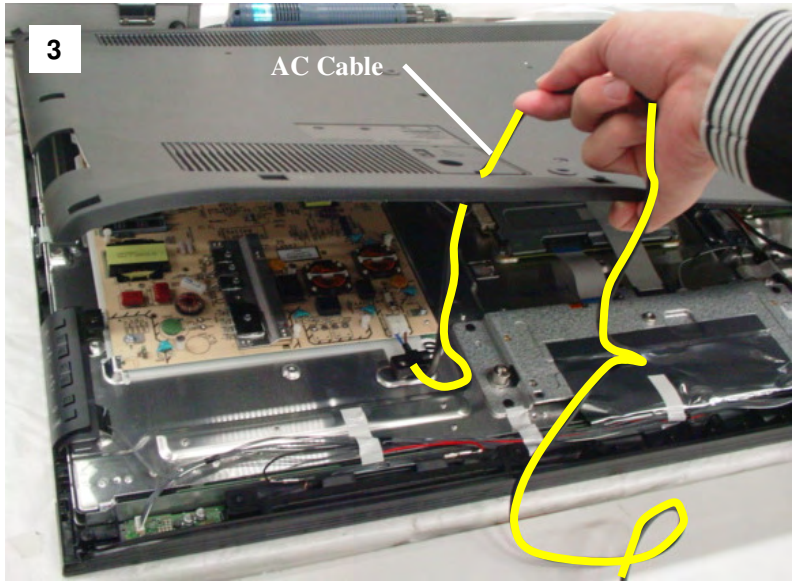
3. Open RC with “COVER AC” and AC cable are attached.

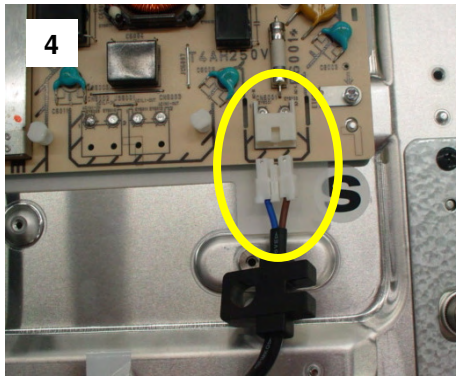
Note: Make sure to hold cable not to give any tension to connector and scratch damage for cable.

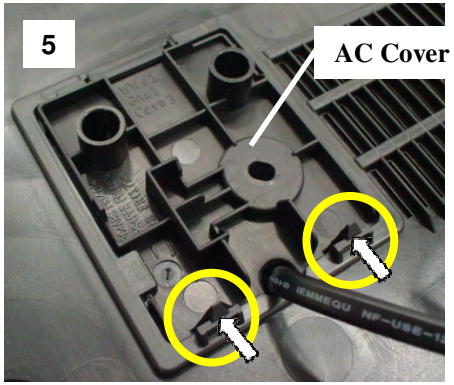
4. Release AC cable connector.

5. Release hook of “COVER AC” and remove it.

Note:
Confirm the hook broken before reuse COVER AC.
In case hook broken is occurred, replace with new one.

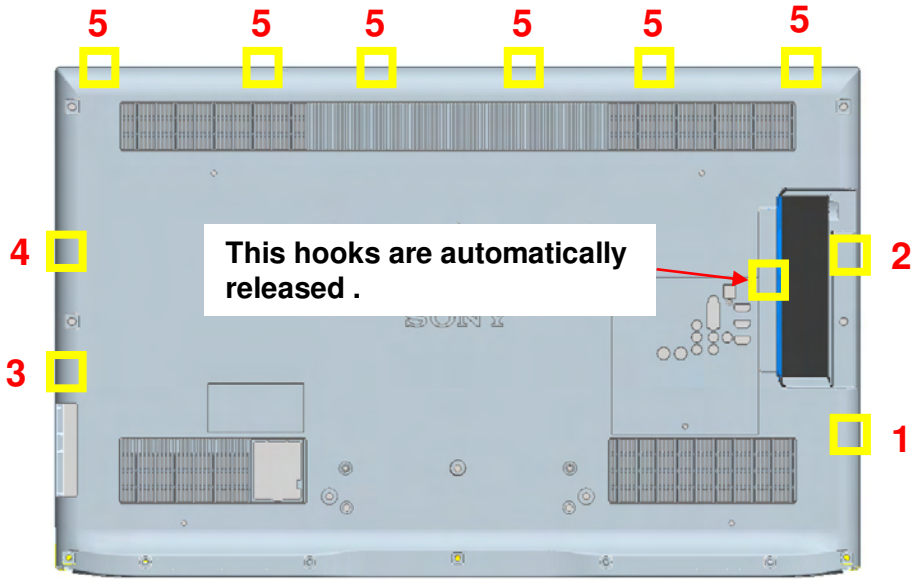




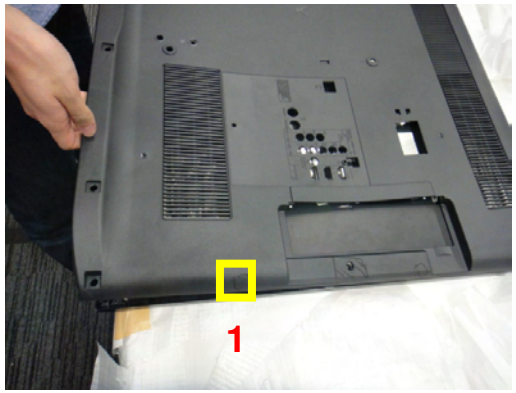


PROCEDURE TO REMOVAL OF REAR COVER (40)

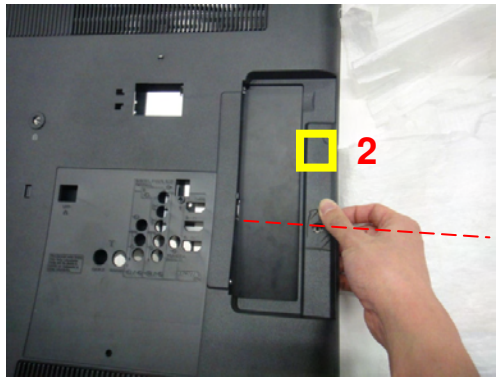
1. Remove all screws on Rear Cover and AC Cover.
2. Open Rear Cover in order as below.
   Note: Do not open quickly with 1~5 hooks are locked.



Notice:



Insert your hand in the place shown in picture.



Insert your hand below screw hole as shown in picture.
Open RC slowly with care.

PROCEDURE TO REMOVAL OF REAR COVER (40)

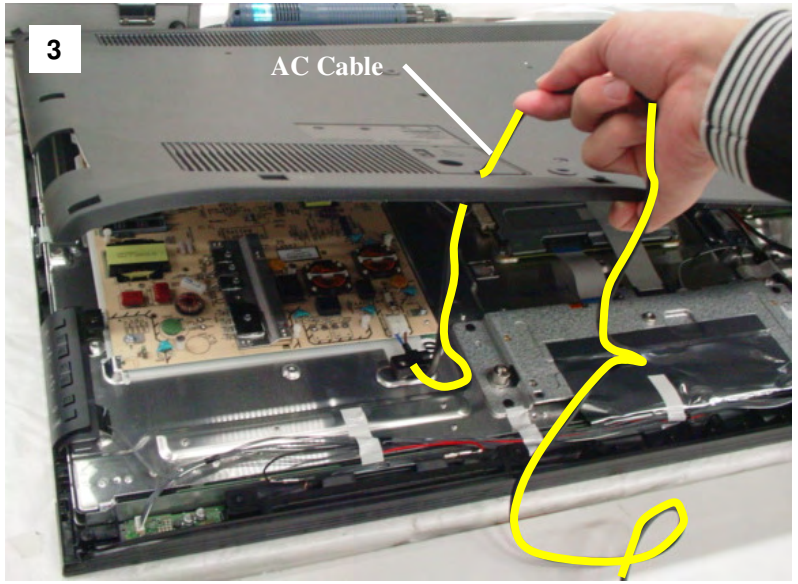
3. Open RC with “COVER AC” and AC cable are attached.

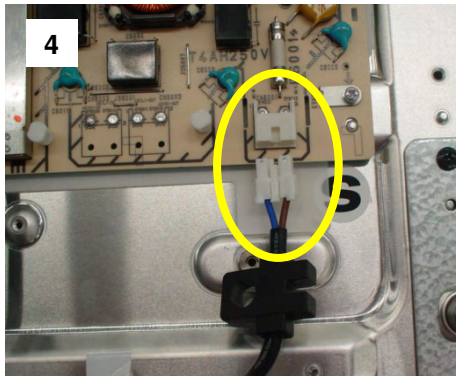
Note: Make sure to hold cable not to give any tension to connector and scratch damage for cable.

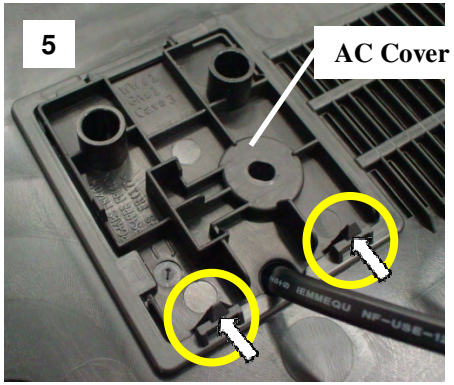
4. Release AC cable connector.

5. Release hook of “COVER AC” and remove it.

Note:
Confirm the hook broken before reuse COVER AC.
In case hook broken is occurred, replace with new one.

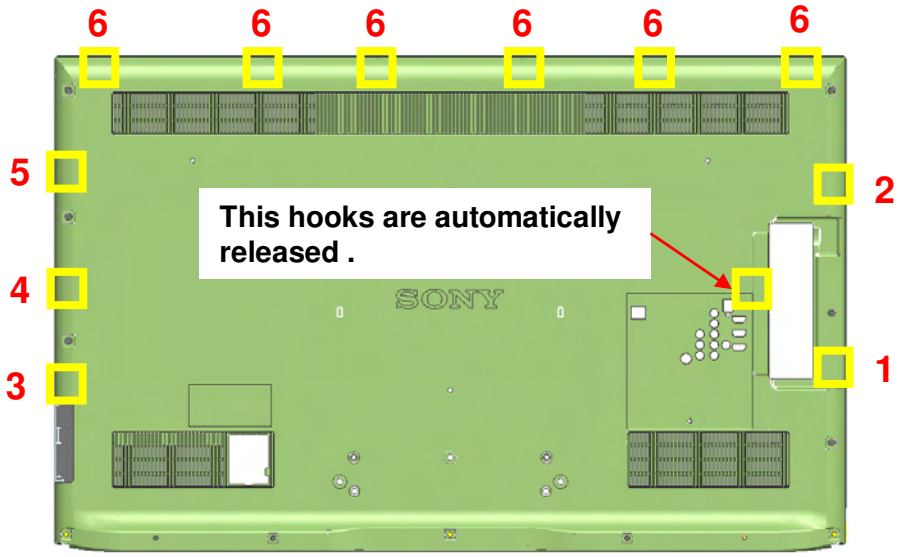




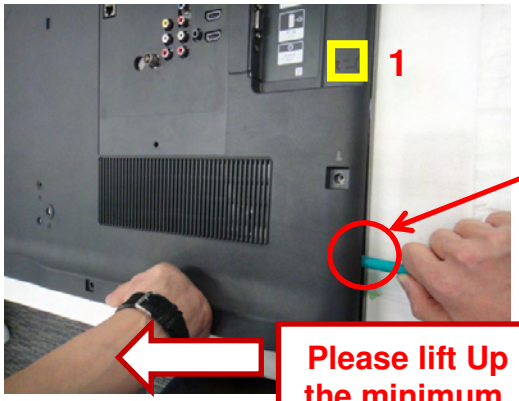


PROCEDURE TO REMOVAL OF REAR COVER (46)

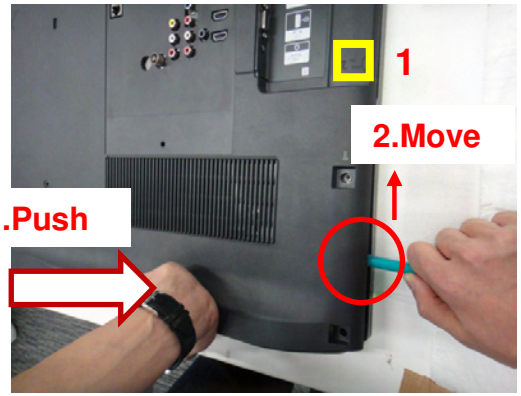
1. Remove all screws on Rear Cover and AC Cover.
2. Open Rear Cover in order as below.
   Note: Do not open quickly with 1~6 hooks are locked.

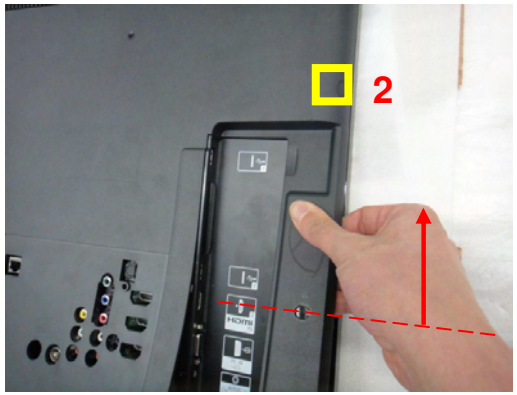


Notice:



Insert plastic part (less than 15mm)
*Do not use metal one.
*Take care not to scratch parts.





Insert your hand above screw hole as shown in picture.
Open RC slowly with care.

PROCEDURE TO REMOVAL OF REAR COVER (46)

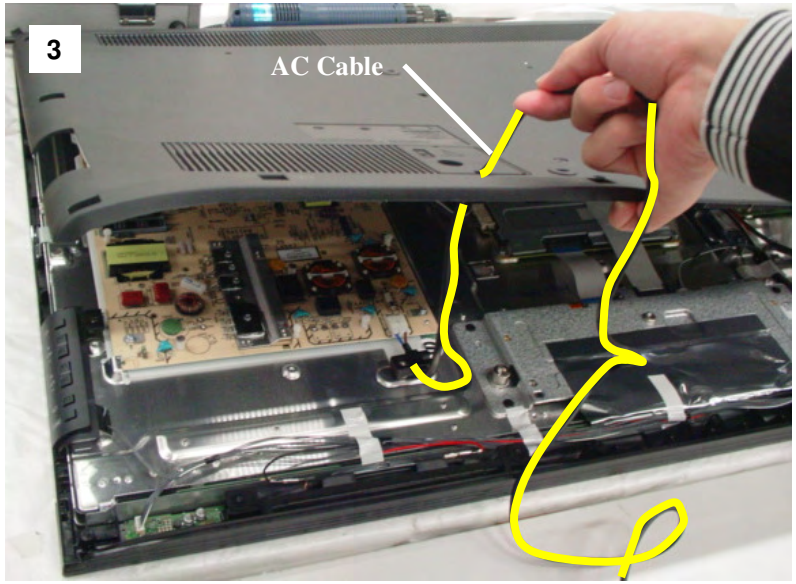
3. Open RC with “COVER AC” and AC cable are attached.

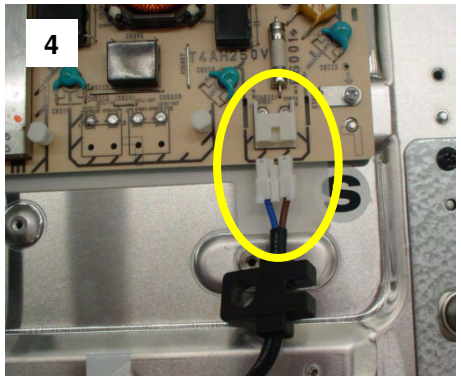
Note: Make sure to hold cable not to give any tension to connector and scratch damage for cable.

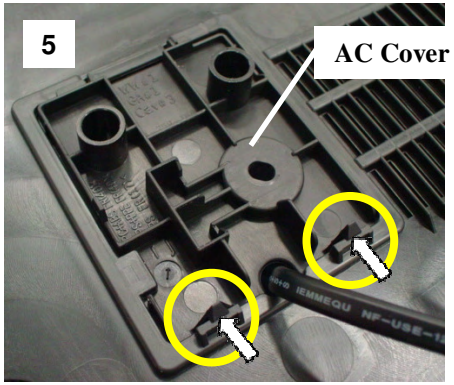
4. Release AC cable connector.

5. Release hook of “COVER AC” and remove it.

Note:
Confirm the hook broken before reuse COVER AC.
In case hook broken is occurred, replace with new one.



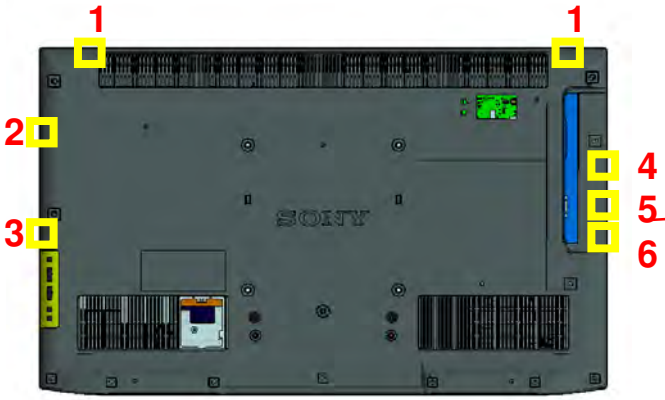




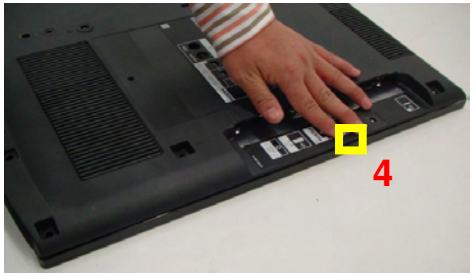
PROCEDURE TO ASSEMBLEL OF REAR COVER (32)

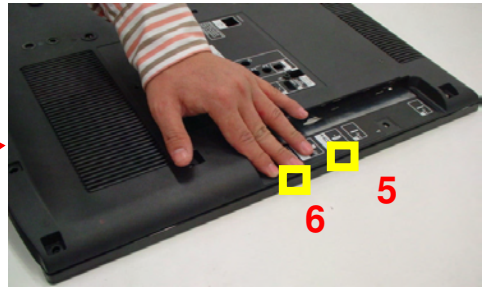
1. Put Rear Cover from top side.

2. Push and confirm Locks in order as below.



Notice:



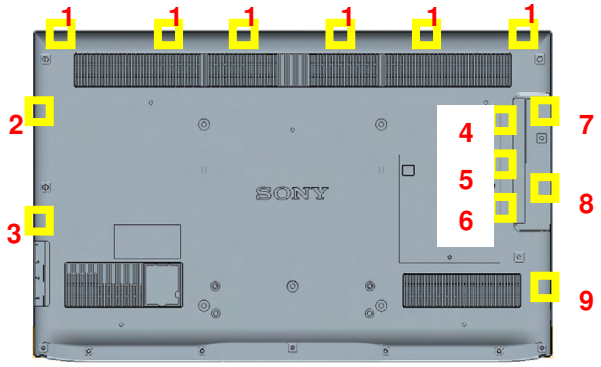


3. Confirm all locks are fitting..

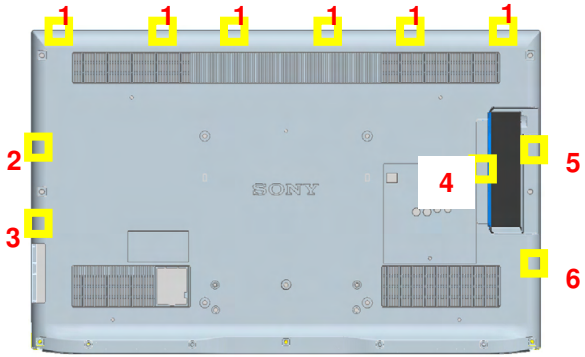
PROCEDURE TO ASSEMBLEL OF REAR COVER (37/40/46)

1. Put Rear Cover from top side.

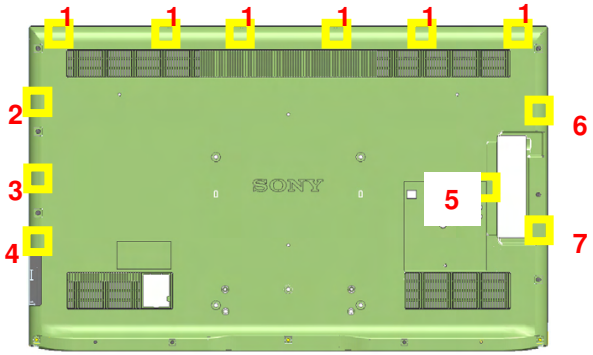
2. Push and confirm Locks in order as below.



<37 Inch>



<40 Inch>



<46 Inch>

3. Confirm all locks are fitting..

APPENDIX-2

1. PROCEDURE TO REMOVE THE LCD PANEL FROM THE BEZEL ASSY

Peel off the double sided tape between the bezel assembly and the LCD panel when exchanging the LCD panel, etc, follow the instructions below.

<22/24/26 inch>

1.Release hooks of Bezel

Top

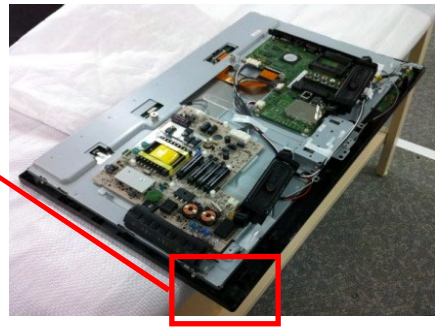
Side (L &R)

Cushion

Please release hooks of top and side. and install a cushion to avoid hooks restored.

2.Peel off the double sided tape

(1) Pull Panel up and push down Bezel like picture.

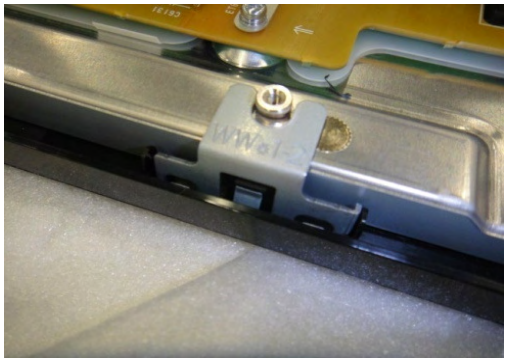


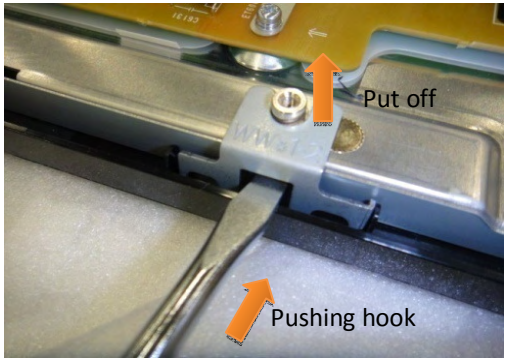
(2) Move hands along, peeling off the tape, pull up and push down near the tape as you go along.

To peel off the double sided tape between the bezel assembly and the panel, push bezel down and pull panel up.
To prevent breaking the panel it is prohibited to push the panel from front.

<32/37/40/55/60 inch>

1.Take off "Bracket, Panel"

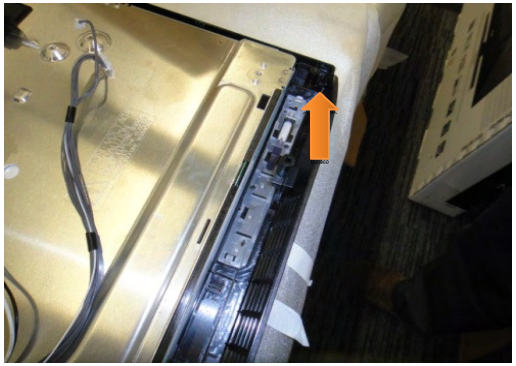




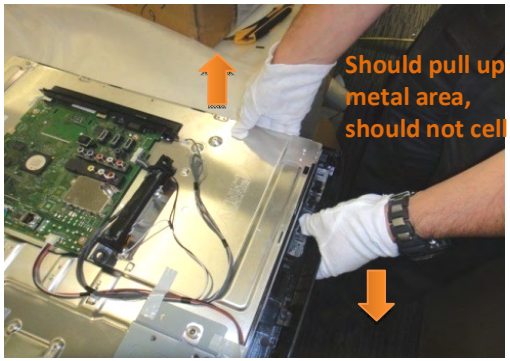
Take off "Bracket, Panel" by pushing bezel hook.
The positions are shown on the following pages.

2.Peel off the double sided tape

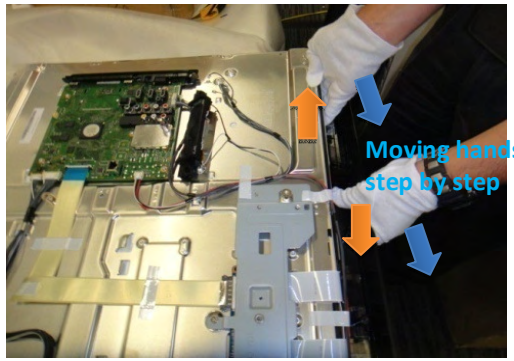
(1)Take off LED board to assist with tape peel off



(2)Put hand between the bezel and panel from side, pull panel up and push down bezel like picture.



(3)Move hands along, peeling off tape, pull up and push down near the tape as you go along.



To peel off the double sided tape between the bezel assembly and the panel, push bezel down and pull panel up.
To prevent breaking the panel it is prohibited to push the panel from front.

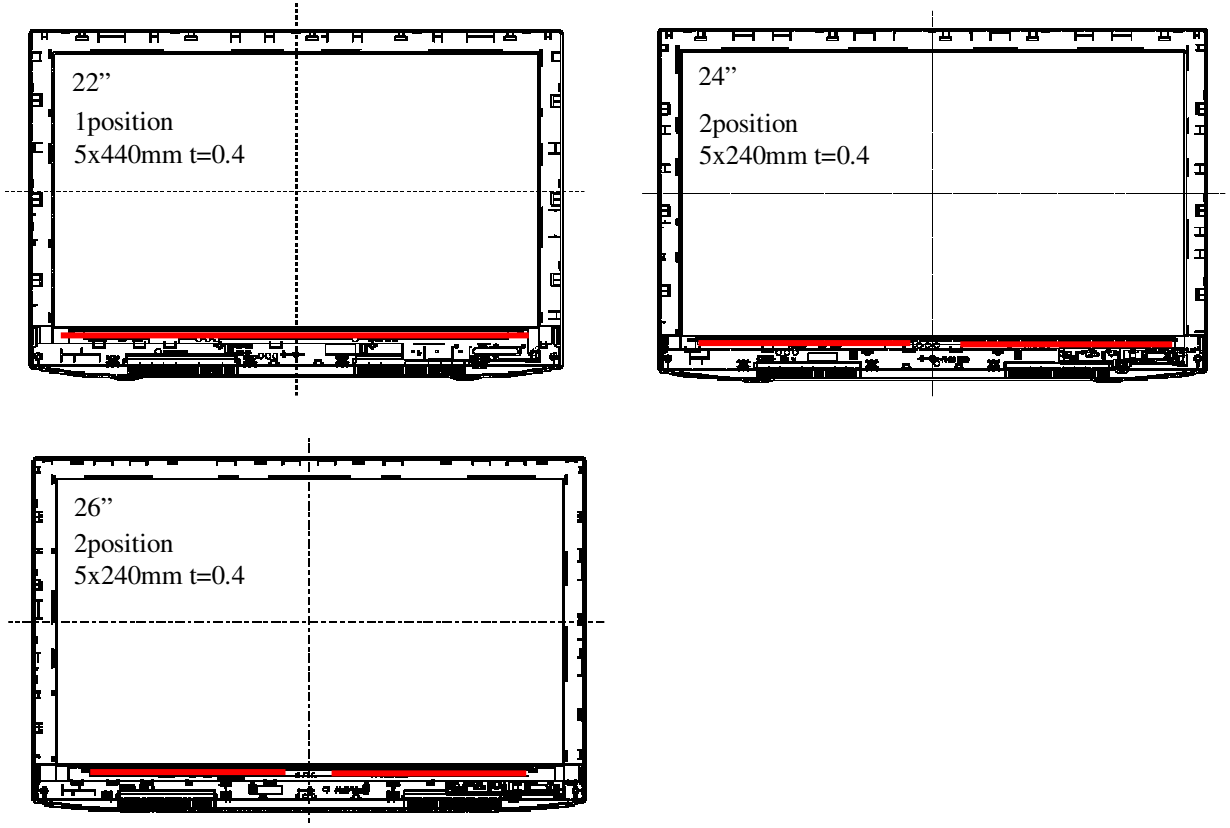
2. EXCHANGING THE DOUBLE SIDED TAPE

Because the double sided tape's strength weakens when peeled off, peel off all the tape from bezel assembly, and stick on new ones (P/N: See Common Parts list).

<22/24/26 inch>

1.Peel off the double sided tape from Panel.
(Possibly remain on Bezel side)

2.Stick the double sided tapes
Peel off separate papers before putting panel on.

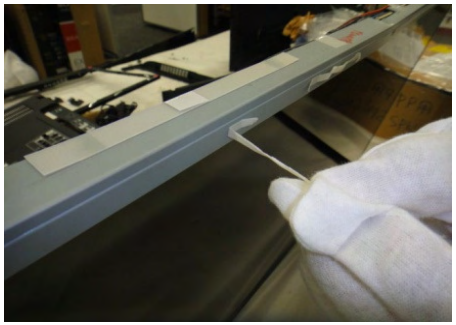


2. EXCHENGE DOUBLE SIDED TAPES

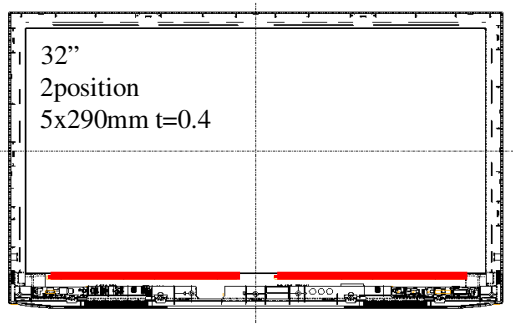
Because double sided tape's strength weaken when tapes once peeled off, peel off all tapes from bezel assembly, and stick new ones (P/N: 4-272-200-01).

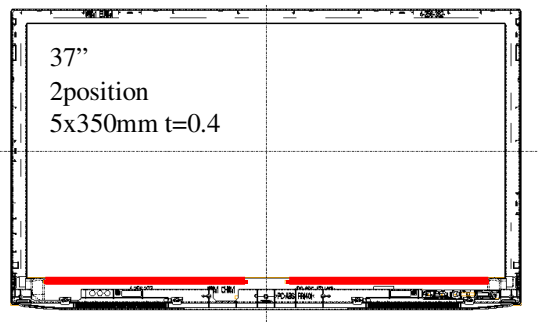
<32/37/40/46 inch>

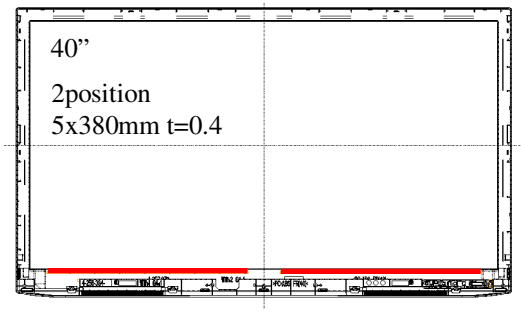
1.Peel off double sided tapes from Panel.
(Possibly remain on Bezel side)

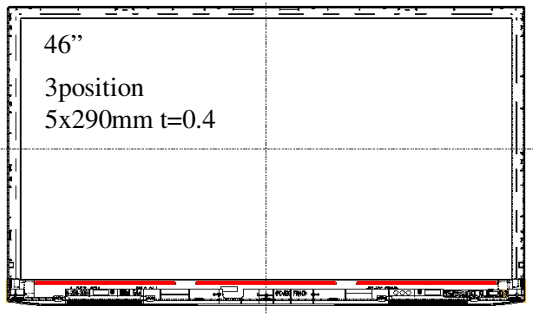


2.Stick double sided tapes
Peel off separate papers before panel puts on.









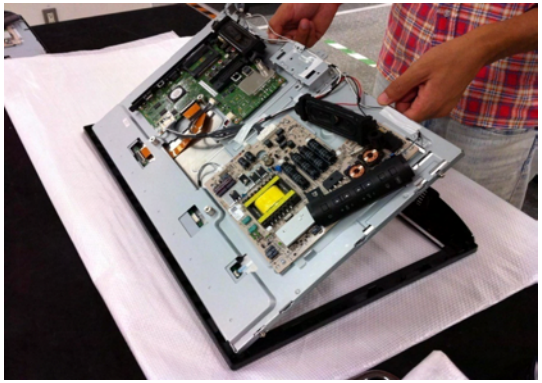
3. PUTTING THE PANEL ON TO THE BEZEL

Pay attention to the double sided tape, put the panel on to the bezel assembly as shown below.

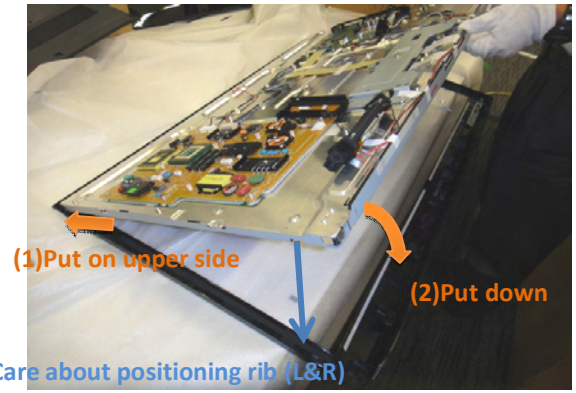
1.Putting the panel on to bezel

(1) Put from upper side adjusting position to L/R side.

(2) Down panel on to bottom caring about fitting bezel position ribs and panel cutout area.



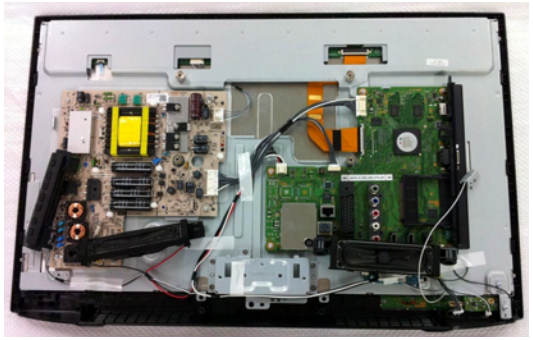
<22/24/26 inch>



<32~40/55/60 inch>

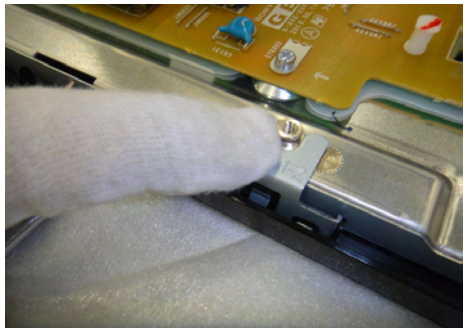
2.Lock with hooks of Bezel / Putting on “Bracket, panel”

Please lock Panel with hooks of Bezel.



<22/24/26 inch>

Put brackets and confirm fixed by hook.



<32~40/55/60 inch>